AIMING FOR ZERO: WHAT MAKES A NATION ADOPT A CARBON NEUTRAL PLEDGE?

By

JULIA ANN FLAGG

A dissertation submitted to the

Graduate School-New Brunswick

Rutgers, The State University of New Jersey

In partial fulfillment of the requirements

For the degree of

Doctor of Philosophy

Graduate Program in Sociology

Written under the direction of

Thomas K. Rudel

And approved by

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

New Brunswick, New Jersey

May 2016
ABSTRACT OF THE DISSERTATION

AIMING FOR ZERO: WHAT MAKES A NATION ADOPT A CARBON NEUTRAL PLEDGE?

By

JULIA ANN FLAGG

Dissertation Director:
Thomas K. Rudel

This dissertation research examines carbon neutral pledges made by several nation-states. Several countries have pledged to emit zero net carbon emissions in the near future in response to global climate change. First, this research uses newspaper articles to document which countries have made these pledges. These results show that nine nations have made carbon neutral pledges. Second, this research uses national-level statistics in a fuzzy-set qualitative comparative analysis to identify the common confluence of factors that is present in pledging nations. The results show that pledging nations, compared to non-pledging nations, have smaller populations, more egalitarian class structures, better governance, and more international environmental NGOs. Then, this project includes a case study on Costa Rica’s carbon neutrality pledge. The case study has three parts. First, it provides a historical account of how Costa Rica came to have the institutional profile of a country that makes a carbon neutral pledge. It uses archival research to explain how Costa Rica came to have the small size, egalitarian agricultural economy, good governance, and strong NGO presence that characterize pledging nations. Second, it provides a narrative account of the events that preceded the country’s carbon neutral commitment in February 2007. Archival research and interviews with people in
government, industry, science, and civil society are used in this case study. In many ways, Costa Rica’s carbon neutral pledge is latest example of a highly ambitious political action that appeals to people’s values. The carbon neutral pledge reaffirms Costa Rica’s role as country that takes care of its people and takes care of the planet. The third and final section of the case study describes what has happened in Costa Rica since the country made the pledge. While political support for the pledge has in some respects waned since the initial commitment, officials are still committed to the carbon neutral goal and they reaffirmed the commitment in the country’s 2015 Intended Nationally Determined Contribution (INDC) ahead of the 21st meeting of the Conference of the Parties in Paris.
Acknowledgements

I am grateful to many people who have helped to make this project a reality. Faculty and fellow students in the Departments of Human Ecology and Sociology helped me develop my interests and learn how to undertake this research. Financial support from the Department of Human Ecology, the Department of Sociology, and the Graduate School at Rutgers University made the fieldwork for this research possible. An academic year fellowship from the Department of Sociology opened up time for me to write. A fellowship from the Hertog Global Strategy Initiative in Columbia University’s Department of History helped me think through the contours of this project and supported my fieldwork. A scholarship from the New Jersey Society for Women Environmental Professionals also supported my graduate work.

I am indebted to my interviewees in Costa Rica who shared their time to talk with me about carbon neutrality. I am especially grateful to Sergio Musmanni Sobrado and Edmundo Castro Jimenez who provided assistance at numerous junctures. Since January 2010, Letty Tristan Chaves and Juan Guillermo Vargas Prado have patiently helped me to communicate better in their language and have nurtured my interest in Costa Rican environmental issues. They have shared many hours with me discussing Costa Rican politics and futbol. I am grateful for their encouragement and friendship. I am also grateful to Charles Ragin who answered many of my questions about fs/QCA and to Timmons Roberts who provided contact information for a reference in Costa Rica.

I am grateful to friends and colleagues who listened to my concerns and excitement about this project over several years. In particular, I wish to thank Kelly Kato, Lindsay Stevens, Dilara Demir, Nil Uzun, Irina Nicorici, Tsai-Yen Han, Victoria
Gonzalez, and Libby Luth. Libby was especially helpful near the very end, when my nerves seemed to be the most frayed. I am deeply indebted to Angie Oberg and Ryan Good who read and provided feedback on various parts of this project and who helped me think critically about writing. I am happy and fortunate to have been able to share my writing process with you.

I have been very fortunate to have several excellent mentors. Diane Bates introduced me to the world of environmental sociology and encouraged me to think in exciting ways about the combination of sociology, environmental studies, and Latin America studies. My experience of having you as a mentor fundamentally changed my life. I am also thankful to have had a supportive dissertation committee. Robert Fletcher was immediately supportive of my ideas and has provided many suggestions along the way to continue to improve my work. Thank you for your help. I am so grateful that Steve Brechin arrived during my third year at Rutgers. Steve has provided contagious excitement about my ideas and the project as a whole from day one, and I am grateful for that. I also appreciate his critical inquiries into the theoretical approach I have used in this project. Norah MacKendrick has helped me at every stage of this project. I am so grateful for the care and detail you have invested in every conversation we have had and every draft you have read. Finally, I am very fortunate to have worked with Tom Rudel. I walked in to Tom’s office during the first week of my second year of graduate school and told him I wanted to study carbon neutrality pledges. From that moment on, he has invested a great deal of time and energy with me in bringing this project to life. This project would not exist without you and I can’t thank you enough for your help at every step along the way.
I am grateful for the support I received from my family. I was especially fortunate to be part of a family that maintained a steadfast interest in what I have been doing for these past years. My sister Rachel and my brother Russell in particular have provided encouragement during the highs and the lows of bringing this project to completion. Neither of my parents lived to see the day when this project would be finished, but I believe that during the time we shared together, they laid the foundation for me to undertake this kind of an investment. I will always be in their debt. Finally, Joseph Berenguel listened to more hours of my excitement and worry over this project than any reasonable person would sign-up for. I am grateful for the sacrifices you have made to help me succeed and for the support you have provided at each and every turn.

Table of Contents

Abstract: ii-iii

Acknowledgement: iv-vi

List of Tables: viii

List of Acronyms: ix- x

Chapter 1. Introduction: 1-10

Chapter 2. Theoretical Approaches: 11-61


Chapter 4. The Historical Context for Pledge Making: Post-colonial Costa Rica: 80-144


Chapter 7. Conclusion: 222-248

Methodological Appendix: 249-265

References: 266-287
List of Tables

Table I: States that have pledged to go carbon neutral 65
Table II: States considering the possibility of going carbon neutral 66
Table III: Randomly selected group of non-pledging states 68
Table IV: Comparison of pledging vs. non-pledging states 74
Table V: List of respondents and their institutional affiliations 81-82
Table VI: AIJ projects in Costa Rica 159
Table VII: Members of Peace with Nature Committee 173
Table VIII: Values on the calibrated fuzzy set variables 252
Table IX: Archival source by date of retrieval with citations 262-265
List of Acronyms

AIJ: Activities Implemented Jointly
ALIDES: Alliance for Sustainable Development (Alianza para el Desarrollo Sostenible)
BSI: British Standards Institution
CDM: Clean Development Mechanism
CINPE: Center of Political Economic Investigations for Sustainable Development (El Centro Internacional de Política Economica para el Desarrollo Sostenible)
COP: Conference of the Parties
CORBANA: National Banana Corporation (La Corporación Bananera Nacional)
CST: Certification for Sustainable Tourism
CTO: Certifiable Tradable Offsets
DCC: Climate Change Center (Direccion de Cambio Climatico)
ECA: Costa Rican Entity of Accreditation (El Ente Costarricense de Acreditación)
FONAFIFO: National Forestry Financing Fund (El Fondo de Financiamiento Forestal de Costa Rica)
FORESTA: Forest Resources for a Stable Environment
fsQCA: Fuzzy-set qualitative comparative analysis
FUNDECOR: Fundacion para el Desarrollo de la Cordillera Volcanica Central (The Central Volcanic Mountains Development Foundation)
ICE: Costa Rican Institute of Electricity (Instituto Costarricense de Electricidad)
ICT: Costa Rican Institute of Tourism (Instituto Costarricense de Turismo)
INDEC: Intended Nationally Determined Contribution
INTECO: Costa Rican Institute of Technical Norms (Instituto de Normas Técnicas de Costa Rica)
IPCC: Intergovernmental Panel on Climate Change
ISO: International Organization for Standardization
JI: Joint Implementation
MICITT: Costa Rican Ministry of Science, Technology, and Telecommunications (Ministerio de Ciencia, Tecnología y Telecomunicaciones)
MINAE(T): Ministry of Environment and Energy (and Telecommunications) (Ministerio del Ambiente y Energía [y Telecomunicaciones])
MINEREM: Ministry of Natural Resources, Energy, and Mines
MRV: Measuring, Reporting, and Verification
OECD: Organisation for Economic Co-operation and Development
OTS: The Organization for Tropical Studies
PAS: Publically available specification
PLN: National Liberation Party (Partido Liberacion Nacional) – central, social democrat
PES (PSA): Payments for environmental services program (Pago por servicios ambientales)
PUSC: United Social Christian Party (Partido Unidad Social Cristiana) – more conservative
QCA: Qualitative comparative analysis

1 Telecommunications left MINAET in 2013.
SICA: Central American Integration System (Sistema de la Integracion Centroamericana)
SINAC: National System of Protected Areas (Sistema Nacional de Areas de Conservacion)
UCR: University of Costa Rica
UNEP: United Nations Environment Programme
UNFCCC: United Nations Framework Convention on Climate Change
Chapter 1: Introduction

This introductory chapter has three main tasks. The first is to identify why a study on carbon neutral pledging nations is important. The second is to explain why Costa Rica is a suitable choice for a case study. The third is to provide a brief chapter outline.

I: Why is this study important?

Collective action will be needed to respond to the problem of climate change. Adaptation and mitigation are two ways in which social groups can respond to concern about climate change. Adaptation refers to changes made to withstand the effects of climate change, while mitigation refers to efforts made to limit the production of greenhouse gas emissions or to enhance carbon sinks that sequester emissions. The Intergovernmental Panel on Climate Change (IPCC), the global authority on climate change science, has one working group for adaptation and another for mitigation (IPCC 2014). Although adaptation and mitigation are presumably given equal attention in IPCC reports, the two themes have not received equal attention in sociological research. A search in May 2015 on Sociological Abstracts for “adaptation” and “climate change” anywhere in the article resulted in 207 articles while a search for “mitigation” and “climate change” anywhere in the article resulted in 141 articles. A similar discrepancy was found when the search was limited to whether these terms were included in the abstract. This shows that there is a more common focus on adaptation, and this tendency does not appear to be limited to sociology. A Google search of the term climate change adaptation produced 97,300,000 findings, while the same search for climate change mitigation produced 35,300,000 findings (Google 2015).
Among the research on mitigation, a missing piece is a focus on the mitigation of emissions in industrialized societies. As Ehrhardt-Martinez, Rudel, Norgaard, and Broadbent (2015) explain, organizations such as the IPCC and the National Academy of Sciences promote the use of new energy technologies to reduce emissions in these contexts. This implies that the broader societal efforts to mitigate emissions have by and large been neglected. As Ehrhardt-Martinez and her co-authors (2015: 201) explain, these reports share a “common characterization of climate change and mitigation strategies as technological hurdles, generally ignoring the possibilities of social and cultural change and neglecting to acknowledge the limited effectiveness of ongoing, technology-focused strategies to date.” The focus on the technological dimensions of climate change strategies ignores the social, cultural, political, and economic contexts in which these efforts take place and the way in which other kinds of changes (besides just technological ones) can affect climate change outcomes.

The research reported here addresses the ways in which people mobilize and mitigate largely through processes of political and cultural changes. The first goal of this research is to provide a close examination of the factors that led various countries to adopt carbon neutral pledges. The second is to provide a detailed explanation of the process by which one particular country made the pledge. In so doing, this research explores the dynamic social, political, and economic forces that led to one particular kind of mitigation strategy.

Interestingly, other sociologists working on societal-level responses to mitigation have focused on why social groups do not mitigate. For example, some scholars have
explained the forces that led to the United States’ failure to reach an agreement to curb emissions (Fisher 2004; McCright and Dunlap 2003), while others have explained why global inequality is an impediment to the development of an internationally binding treaty on climate change (Roberts and Parks 2007). It is well documented that capitalist societies metabolize and exploit the environment (Foster 2000, Gould, Pellow, and Schnaiberg 2008, Rosa and Dietz 1998:437). Despite this truth, the research reported here follows on a proposition of Rosa and Dietz (1998:437) who explained that, given circumstances of a capitalist economy, the question is not “ ‘When will the environment be exploited?’,” but rather can be, “ ‘Under what conditions will counterforces be adequate to overcome the normal tendency toward environmental disruption?’” Here, I investigate that question by exploring the conditions under which some nation-states have pledged to become carbon neutral. When research on mitigation has focused on why states mitigate, it has only focused on states’ experiences with REDD+ agreements that focus on landscape changes. Created in 2008, the UN-REDD+ program encourages developing countries to curtail carbon emissions by paying them to limit deforestation and the degradation of forests (UN-REDD 2015).

This study seeks to explain the sources of more broadly based societal efforts to mitigate carbon emissions, and it does so by focusing on the specific case of national carbon neutrality pledges. In recent years, some organizations, cities, and nation-states have pledged to become “carbon neutral,” or to reduce and then offset remaining emissions, to ultimately produce a net amount of zero emissions (UNEP 2008). Achieving carbon neutrality means balancing emissions with the amount of carbon that has been sequestered or offset (Fukuda and Tamura 2010).
Carbon neutral pledges did not emerge in a climate change mitigation vacuum. Some states have addressed mitigation through political alliance building. For example, AoSIS, or the Alliance of Small Island States, is a group of 44 small-island or low-lying states that presents itself at international meetings as the common voice of states that are vulnerable to sea level rise (Mooney 2008). They and other climate action advocates have argued for a range of different approaches to emissions reductions including: 1) carbon budgeting, 2) putting a price on carbon, 3) regulation, and 4) international cooperation (UNDP 2007). Carbon neutral pledges warrant special attention for several reasons. First, carbon dioxide is the greenhouse gas that contributes the most to global warming (Rosa and Dietz 1998: 432) so understanding how groups come to make policies about carbon has important global consequences. Second, carbon neutral pledges are different from the four emission reduction options listed above. The scale of a carbon neutral pledge is a political one- the nation. Carbon neutral pledges do not draw upon per capita emission reduction calculations. Third, carbon neutral pledges work at a higher level of abstraction. Carbon neutral pledges prioritize an end, rather than the means to reach that end. The four aforementioned policies are mechanisms to achieve an end goal. Although pledges are made by individual states, the cumulative effects of curbing emissions through carbon neutral policies can scale up to have global effects if they are undertaken by many actors (Ostrom 2010).

This research focuses on carbon neutrality pledges made by individual nation-states. While the nature of ‘the state’ might be changing as transnational forces work within and through state apparatuses (Ferguson 2006), there are several reasons why the actions of nation-states are still important to understand. Nation-states are central to both
democracy and international law (Calhoun 2007: 4). Without considering states’ behaviors, it would be impossible to analyze agreements across states, or in this case, how agreements happen in some states but not others. Although globalization is often seen as an opportunity to move away from studying states, globalization actually creates the opportunity to see how states are influenced, and influence, global problems, processes, and solutions (Calhoun 2007: 6). Calhoun (2007:6) writes, “Pandemic diseases, global crime, human rights abuses, and forced migration all revealed the dark side to globalization - yet all seemed to call at least in part for better states, not an end to states.” The same is true with climate change. While it is a collective global problem, studying climate change creates the opportunity to ask what states can do to address the problem, rather than calls for states to relinquish their roles. Davidson and Frickel (2004: 479) echo this point by saying that the international recognition of environmental problems can encourage “environmental state building at the nation-state level.” National carbon neutral pledges represent an instance of this environmental state building.

There is a general agreement that an internationally binding agreement to reduce emissions is desirable and vital (Mann 2013, Ostrom 2010, Roberts and Parks 2007, Roberts et al. 2004). However, there have been significant challenges in achieving this goal (Roberts and Parks 2007). While a treaty is a sought after achievement, many responses to climate change take a “polycentric” form, with different strategies happening at various levels of scale within a system (Ostrom 2010). A carbon neutral pledge is one such example of a polycentric response. If efforts to cut carbon emissions take a polycentric form, then research on emissions cuts should focus on smaller scale as well as larger scale actions, such as why some states would make bold decisions to
mitigate carbon emissions amid most other states’ refusals to curb emissions. Understanding the factors that lead to states’ carbon neutral pledges is both an interesting theoretical puzzle and a practically important policy issue.

The effects of polycentric approaches to climate change, like carbon neutral pledges are cumulative (Ostrom 2010). As more and more groups make these pledges, the benefits of these commitments can begin to have global effects. Understanding how states make carbon neutral pledges is important for understanding multi-scalar approaches to climate change. Hundreds of universities, towns, and organizations have also made these pledges. The proposed study on the mechanisms that drive states to make pledges may shed light on how other collectives also make pledges.

This research approaches the study of carbon neutrality pledges through a multi-scalar analysis. First, it identifies the common drivers of mitigation pledges among the several states that have made this pledge. Second, it explains the historical context that led up to the pledge in one nation, Costa Rica, and provides a step-by-step explanation of how a coalition made the carbon neutrality pledge in this country.

II: Why Costa Rica?

The second major task for this chapter is to explain the choice of Costa Rica as a case study of a carbon neutral pledging nation. While chapter 3 will show that several countries have made these pledges, studying Costa Rica presents some unique opportunities. First, Costa Rica was not one of the first countries to take on environmental concerns. While Costa Rica is now known for having a strong pro-environmental ethos (Evans 1999), it was not historically a global leader in pro-
environmental actions. It was developed countries that first led the charge with creating a
global environmental regime. For example, it was Sweden that wrote a proposal for the
United Nations to hold a conference on the environment, which resulted in the 1972
United Nations Conference on the Human Environment in Stockholm (Encyclopedia
Britannica 2016). Costa Rica, in contrast, was not one of the drivers establishing the
global environmental regime. Costa Rica’s carbon neutral pledge illustrates a change in
the expectation that developed countries are the only ones that can and will deal with
climate change.

Since the Stockholm conference, Costa Rica has undertaken numerous domestic
efforts to respond to environmental issues, including the development of the national
parks system (Evans 1999) and the payments for environmental services program
(Daniels 2010, Daniels et al. 2010, Pagiola 2006, 2008). Costa Rica had the highest score
on Yale’s Environmental Performance Index for the Americas in 2010, with a score of
86.4/100. Only two countries surpassed Costa Rica’s score: Iceland (93.5) and
Switzerland (89.1) (Yale University 2010). Given this recent, and rich, history of
environmental conservation, Costa Rica might appear to be an “obvious” state to make a
carbon neutral pledge. But the case is more complicated than this. As Roberts, Parks and
Vasquez (2004) found, natural capital, such as large forested lands or extensive
biodiversity, does not imply direct, political action on environmental issues. The presence
of abundant natural resources does not imply that political actions will be undertaken to
protect these resources. Thus, the outcomes in the Costa Rican case do not seem
predetermined. Instead, the dynamics of political cooperation need to be closely
examined.
Other case studies on climate change policy outcomes have been limited to countries in the global North (Fisher 2004), so Costa Rica, as a case study of the political dynamics of climate change policy in the global South, promises to deliver theoretically and empirically novel findings. In so doing, this research responds to recent work by Broad and Cavanaugh (2015). In their study on why El Salvador and Costa Rica both decided to ban mining, despite the potential lucrative gains that could be made from developing that industry, Broad and Cavanaugh (2015) call from more research on why some states act to protect the environment instead of exploiting it for economic gain. They state, “We need further case studies to add to our understanding of when governments in poorer countries take decisive action to protect the environment and when they do not,” (Broad and Cavanagh 2015: 426). The case study work on Costa Rica elaborates the conditions under which political leaders chose to take pro-environmental action.

III: Chapter outline

The remainder of the dissertation proceeds as follows. Chapter 2 provides an explanation of different theoretical approaches that could conceivably be used to explain how countries came to adopt carbon neutral pledges. The chapter begins with an overview of macro-level theories, before moving the scale of analysis down with a state-in-society approach. The chapter includes with a description of various societal characteristics that might help explain how certain kinds of states in certain kinds of societies come to adopt ambitious mitigation pledges. It concludes with an explanation of how the carbon neutral pledge might be an example of symbolic politics. Chapter 3
investigates the following two questions: which countries have made carbon neutral pledges, and what are the common factors within these countries that may have led them all to adopt these pledges? The chapter draws upon data from newspaper articles to answer the former question and country-level statistics analyzed with a fuzzy-set qualitative comparative analysis (fsQCA) approach to answer the latter question. The fsQCA reveals that there are four causally relevant conditions in carbon neutral pledging nations: small size, egalitarian class structure, good governance, and strong international environmental NGO presence. The results open up the question of why countries that adopt carbon neutral pledges share these common factors.

Chapters 4 and 5 build on the cross-national comparative research with a case study of Costa Rica’s process of adopting a carbon neutral pledge. Chapter 4 focuses on how Costa Rica came to have the four societal conditions that are present in pledging nations. Drawing mostly upon archival sources, but also upon interview data, this chapter provides a historical account of how Costa Rica came to have small scale, an egalitarian class structure, good governance, and a high density of INGOs. Interwoven throughout this chapter are accounts from interviews that explain how people in Costa Rica talk about these four factors. Chapter 5 tells the story of how Costa Rica came to make a carbon neutral pledge. This chapter provides a narrative of the process that culminated in the country’s 2007 carbon neutral pledge.

Chapter 6 explains what has happened in Costa Rica since it made its pledge in 2007. Since a carbon neutral pledge is easy to promise but very difficult to achieve, it is conceivable that the pledge could have merely been an empty political promise. The chapter explains what people have done in Costa Rica since the pledge, and the results
show that while support for the pledge has waned over time, significant effort has been undertaken to meet the goal. The conclusion, chapter 7, serves two functions. First, it summarizes the main findings from the dissertation. Second, it theorizes how the findings about carbon neutrality might also explain which kinds of states would make more ambitious mitigation pledges ahead of the 21st Conference of the Parties (COP) meeting in November-December 2015.
Chapter 2: Theoretical approaches

Introduction

This chapter takes on five major tasks. First, it reviews literature on mitigation at various levels of scale—micro, meso, and macro. Second, because the current project is on mitigation at the level of nation-states, it reviews three macro-level theories that could be used to understand carbon neutral pledges: world systems theory, world society theory, and regime theory. The review of these literatures suggests that it is necessary to review ways in which we can understand states’ policies not as a consequence of global structures or processes, but rather by political-economic interactions that happen within the state itself. This leads to the third task, which is to explain a state-in-society theoretical approach and its applicability to carbon neutral pledges. The fourth task is to explain some of the state and societal factors including scale, class structure, governance, and NGO density that might help explain how nations come to make carbon neutral pledges. The fifth task is to explain how a carbon neutral pledge might be an example of ‘symbolic politics,’ and explain why some states might be more likely than others to engage in symbolic politics. The chapter concludes by describing how the cross-national analysis in the following chapter addresses these issues.

I. Mitigation at different scales

1. Micro scale

In recent years, a plethora of mitigation activities has proliferated at multiple levels of scale (Ehrhardt-Martinez et al. 2015). A sociological lens is useful for studying these activities since sociology is attuned to activities that happen at the micro
(individual), the meso (small group), and macro (large group) levels. I begin with research on micro-level mitigation activities, which has focused on how and why people contribute to or reduce carbon emissions. Although scholars in this tradition agree that long-term and large-scale actions to combat climate change are necessary, they still argue that we can study and identify the conditions under which more immediate changes can be made at smaller scales (i.e., Dietz, et al. 2009). Furthermore as Rudel (2013) has argued, under certain conditions, actions undertaken by individual people can scale up to have global effects. Some scholars have enthusiasm about the potential that individual level actions have on curbing emissions. For example, Dietz et al. (2009) find that as of 2005, energy use by households accounted for 38 percent of overall carbon emissions in the U.S. Through the widespread adoption of technologies and changes in both rare and routinized behaviors, U.S. households could reduce emissions by 20 percent within the next 10 years. They call the emission reductions that would come from the adoption of these behaviors the “behavioral wedge” (Dietz et al. 2009: 18452).

In contrast, other scholars see individual actions as very limited in their ability to affect larger change. For the treadmill of production theorists, individual people are limited in their ability to change the treadmill system because they are only involved with the final stage of the treadmill: consumption. For treadmill scholars, businesses operate in a capitalist economy with the goal of increasing demand. The metaphor of the treadmill is invoked to describe the ways in which firms stay in place, while producing an endless stream of externalities on the environment (Gould, Pellow, and Schnaiberg 2004, Rudel, Roberts, and Carmin 2011). Gould et al. (2004: 300) say,

“Although consumers may be the ultimate purchasers of some of the products of the new technologies, decisions about the allocation of technologies is in the realm of
production managers and owners. Decisions about types of technologies, the use of labor, and volumes of production are made outside the realm of consumer decision making. … Although consumers can accept or reject these products, they have no influence over the allocation of capital to productive technologies.”

Through this lens, individual people are framed as consumers, rather than citizens who fight for change. Because people are not involved with decisions about the production of goods, their power is extremely limited within the treadmill model.

Szasz (2007) goes even further by arguing that individual actions are not only ineffective but actually damaging because they cause people to abandon broader political action. Szasz (2007) argues that there are two reasons why people are not very concerned and why they do not typically act in response to climate change. First, the distance of perceived threats from climate change can legitimate inaction. Second, if people experience the effects of global environmental change, they are most likely to experience it “in the form of increasing numbers of toxic threats to their health and to the health of their loved ones” (Szasz 2007: 221). In response to these threats, people try to protect themselves, rather than the broader human community, by buying things to keep them safe. This widespread, hyper-individualized concern leads to the development of an “inverted quarantine” and as a result, there is a widespread “political anesthesia.” People preoccupy themselves with protecting their own bodies rather than pursuing political change. For Szasz (2007), the only solution would be for people to abandon their individual pursuits of safety and instead band together to pursue political reform.

Despite these debates about the merits of actions undertaken by individual people, a significant body of research documents these micro-level behaviors. For example, some research has tried to explain which people are most likely to consume environmentally friendly goods (Blankenau et al. 2008; Blocker & Eckberg, 1997; Gilg et al., 2005;
Other scholars have investigated who is most likely to participate in a recycling program (Blankenau et al. 2008; Derksen & Gartrell, 1993; Ebreo & Vining, 1990; Hunter, 2001; Hunter, et al. 2004; Johnson, et al. 2004, Klineberg, et al. 1998; Tindall et al., 2003). Other researchers have taken a different approach by studying people’s perceptions about climate change and the norms that structure how people think about and act (or don’t act) in response to climate change (Norgaard 2011). Lorenzen (2012) has studied how people construct green narratives about their eco-friendly lifestyles, and she argues that this is a pragmatist response to a global environmental problem like climate change. Other ways to study individual people’s involvement with mitigation activities is to study the drivers behind people’s involvement with social movements aimed at curbing emissions or people’s fertility decisions (Ehrhardt-Martinez et al. 2015). Of course, while many micro-level actions to mitigate emissions are intentional some, such as having fewer children or no children at all, can be unintentional drivers of reduced emissions (O’Neill et al. 2010).

2. Meso scale

Moving up a scale, sociologists have also investigated mitigation activities at the meso level. To do this, they have explored mitigation activities among states, cities, organizations, and networks (Ehrhardt-Martinez et al. 2015). Mitigation activities appear to be blossoming at this level. For example, by June 2007, 207 U.S. colleges and universities had pledged to become “climate neutral” (ACUPCC 2007). The growing
number of universities, cities, counties, religious institutions, and foundations that have committed to fossil fuel divestment also exemplifies the proliferation of these meso-level activities (Fossil Free nd).

Some research on meso-level mitigation activities has explored the conditions under which decisions about curtailing emissions are made. Much of this research has focused on the relationships between coalitions and the potential for economic opportunities. For example, Shwom (2011) elaborates the conditions under which the treadmill of production or ecological modernization explains the transition to the use of more efficient devices in U.S. households. More specifically, during times when there is a strong counter movement, when businesses are unified, and when there has been little previous, and a low threat of, regulation, the transition to more green household energy devices resembled the treadmill of production, meaning that businesses’ interests prevail and green technologies are less inclined to be adopted. In contrast, in times when government was willing to and already had regulated business and when state/industry business is more characterized by cooperation, ecological modernization (i.e., mitigation through the adoption of new technologies) prevails.

Hess (2014) investigates the driving forces behind sustainability transitions (STs), or changes to low-carbon energy sources, among states in the US. He finds that the mobilizations of three different groups, the incumbent regime, grassroots green transition coalitions, and countervailing industry, influence whether STs take place. More specifically, he finds that if incumbent industrial groups can work with conservative think tanks or politicians, they can help shut down STs. If social movements can form coalitions to support the transition and change the discourse, they can create the
conditions under which STs happen. Finally, countervailing industrial mobilizations can help STs take place when industrial groups provide financial support to grassroots coalitions. In other words, Hess’s (2014) work provides an important example of how different interactions between different meso-level groups alter the probability of sustainability transitions.

Pulver et al.’s (2010) work also fits here. The authors investigate the perspectives of sugar mill owners in Brazil to explain why some mills adopted projects that lead to emissions reductions through the Clean Development Mechanism (CDM) while others did not. Pulver et al. (2010) describe how social norms are an important instigator behind firms’ behavior. In their interviews, the authors found that mill owners’ interests in improving the mill’s international and local reputations was were strong drivers behind owners’ decisions to adopt CDM projects.

3. Macro scale

The above-cited literature explains some of the findings from research on micro and meso-level activities designed to curtail carbon emissions. Mitigation can also happen at the macro-level. Four common ways to achieve emissions reductions at the macro-level are: 1) carbon budgeting, 2) putting a price on carbon, 3) regulation, and 4) international cooperation (UNDP 2007). Like the micro and meso-level approaches to mitigation cited above, macro-level activities to combat climate change are certainly not universal but they are fairly widespread. As of 2015, Columbia Law School (2015) documented that 115 countries have made laws or policies to address climate change. In
addition, 48 non-Annex I\textsuperscript{2} countries to the United Nations Framework Convention on Climate Change (UNFCCC) have outlined plans for nationally appropriate mitigation actions (NAMAs) (Fukuda and Tamura 2010).

Macro-level research on mitigation has largely clustered in three areas. First, some research has explored the world of international social movements. Second, some work has studied global policy regimes. And third, some research has done cross-national comparisons of states’ mitigation activities (Ehrhardt-Martinez et al. 2015). Some organizations have started to ‘rank’ countries based on the degree to which they have pursued actions to curtail emissions. The Climate Competitiveness Index ranks countries on the degree to which they have moved toward a low carbon economy (Lee, et al. 2010). Yale’s Environmental Performance Index has done a similar cross-national comparison of states’ progress in a variety of environmental domains. The following chapter describes the results of a comparison between the conditions present in states with carbon neutral pledges to the conditions in a randomly selected group of states without such pledges. This work contributes to the body of research on cross-national comparisons of states’ mitigation activities.

\footnote{The UNFCCC divides countries into three categories: Annex I, Annex II, and non-Annex I countries. Annex I countries are those countries that were members of the OECD in 1992, plus countries with economies in transition (Russian Federation, the Baltic States, and several Central and Eastern European States.). Annex II countries include the OECD countries, but not the countries with economies in transition. Non-Annex I countries are developing countries. Certain non-Annex I countries are “s are recognized by the Convention as being especially vulnerable to the adverse impacts of climate change, including countries with low-lying coastal areas and those prone to desertification and drought” (UNFCCC 2014f). Non-annex I countries are eligible, under the Convention, to receive funds for mitigation and/or adaptation from Annex II countries (UNFCCC 2014f).}
II. Theoretical approaches to studying macro-level mitigation activities

This section describes a series of theoretical approaches that could theoretically be used to explain why some nation-states have made carbon neutral pledges. First, I review three macro-sociological approaches to explaining states’ actions: world systems theory, world society theory, and regime theory. Second, to move closer to studying what happens within individual states, I draw upon literature on intra-state conditions. Third, I bring in research on how the historical conjunctures of particular conditions give rise to particular state actions.

1. World systems theory

During the past half-century sociologists have developed two theoretical approaches, world systems theory and world society theory that could conceivably be used to explain the adoption of carbon neutral pledges. Because both world systems theory and world society theory make predictions about the kinds of states that are likely to do something and about how change happens, they could theoretically be used to describe which countries are making carbon neutral pledge. The objective here is not to test how well world systems theory and world society theory explain the particular case of carbon neutral pledge adoption, but rather to develop a sensitivity to the kinds of dynamics that these theories suggest would happen.

World systems theory argues that the world is characterized by differences among nation-states and that there is a division of labor by states in the world economy (Wallerstein 2004). States can occupy core, semi-peripheral, or peripheral positions in the world system. World systems theory emphasizes the relations between core-like
processes and peripheral-like processes. The former are controlled by quasi-monopolies, while the latter are characterized by competition. When exchange occurs, core-like processes have the advantage. As a result, the surplus value of production flows directly to core-like processes. Core-like processes happen in a small number of states, while peripheral-like processes are scattered across many states. Some states exhibit a mix of core-like and peripheral-like processes, and those are called semi-peripheral states. The capitalist world economy is characterized by the unequal exchange between core and peripheral states and is stable most of the time (Wallerstein 2004: 28).

In this model, a state’s strength is determined by both internal and global factors. Strong states, in contrast to weak states, are sovereign, have fixed boundaries, can carry out legal decisions, and can collect taxes (Wallerstein 2004). Strong states are also recognized by other states and can control their boundaries. In other words, states’ actions reflect their structural positions in the capitalist world economy. World systems theory fits within the broader literature on ecological Marxism (Davidson and Frickel 2004), which posits that the logic of capitalism is incompatible with environmental protection (Foster 2000). Recent applications of world systems theory finds that while countries within the same tier (core, semi-periphery, and periphery) have become more similar, the differences in economic growth across tiers have diverged (Clark and Beckfield 2009). In other words, large-scale inequality across countries of different world system positions has increased.

A world systems approach to climate change emphasizes the inequality of climate change by illuminating how states bear different levels of responsibility for contributing to the problem. Wealthy Northern states have historically produced more greenhouse gas
emissions than developing states in the Global South (Roberts and Parks 2007, United Nations 2007). Furthermore, the North-South division also affects who is most vulnerable to the effects of a changing climate. Roberts and Parks (2007: 130-32) find that states that were once colonized are much more vulnerable to climate-related disasters than are other states.

Roberts and Parks (2007) argue that a global treaty to reduce emissions will not happen because states in the South can’t trust wealthy Northern states. Even though developing states have contributed far fewer emissions than wealthier states, developing states will bear the brunt of the effects of climate change (Roberts and Parks 2007, United Nations 2007). Developing states are further disadvantaged because they wield much less power than wealthy Northern states at international meetings on climate change. Poorer states can only send a limited number of representatives to these meetings, which limits their power at these global summits (Roberts and Parks 2007).

Roberts and Parks (2007: 58) argue that as a consequence of the vast economic inequality between states, “North-South expectations have failed to converge around a stable set of mutually acceptable principles, norms, rules, and decision-making procedures.” A global treaty to reduce emissions will not come about until states in the North recognize and respond to the fact that states in the South can’t trust wealthy Northern states. Following the logic of world systems theory, they argue that states’ climate change policies reflect their structural positions in the world economy (Roberts and Parks 2007). According to this analysis, the peripheral states in the Global South would be slow to address mitigation issues, arguing that the wealthier core states in the North, having emitted most of the carbon, have the historical obligation to reduce carbon
They claim, “a nation’s ability to implement meaningful environmental reform depends upon its position in the international division of labor,” (Roberts and Parks 2007: 36). Using this line of argument, any and all proposed solutions to address climate change should come from the Global North. This does not mean they will come from the North—only that they will not initially come from the South. States in the Global South are certainly not theorized to respond to global climate change unless wealthy Northern states act first.

However, Ciplet, Roberts, and Khan (2015) notice that there have been some significant power shifts and the creation of new identities in the arena of global climate change politics. Specifically, a new global order has emerged since the 2009 meeting at Copenhagen. There, the meeting between the United States and the BASIC (Brazil, South Africa, India, and China) countries represented an unusual union that disrupted the North-South cleavage in climate politics. Ciplet, Roberts, and Khan (2015: 64) find that since 2010, 15 groups of nations have emerged with diverse positions on how to address climate change.

Ciplet, Roberts, and Khan argue that the US and BASIC countries came together at Copenhagen in order to ensure their own continued economic growth post-Copenhagen. Ciplet, Roberts, and Khan (2015: 73) find,

“With a global recession at the forefront of state leaders’ concerns around the world, Copenhagen was approached by the world’s biggest emitters as an opportunity to assert their dominance on the world’s biggest stage… But rather than step back and work to divide the remaining atmospheric space fairly, the United States and BASIC dug in their heels to ensure they would not be burdened by onerous restrictions on their economic growth.”
The agreement that the US and BASIC countries came up with involved voluntary pledge and review processes, and does away with the legally binding commitments that were part of the Kyoto Protocol.

New metrics of countries’ shifting positions have also become available. In preparation for the 2015 Conference of the Parties (COP) negotiations in Paris, countries wrote Intended Nationally Determined Contributions (INDCs). In INDCs countries specify how they will voluntarily mitigate emissions, how they will adapt to climate change, and what they would do if they had more money (Ciplet, Roberts, and Khan 2015: 94). By November 1, 2015 120 countries had announced their INDCs, and by February 2016, 161 INDCs had been submitted, representing the pledges of 188 countries (World Resources Institute 2015). INDCs represent a significant shift in climate change politics because they are not mandatory, all countries (not just wealthy Northern ones) are expected to write them, and they do not include legally binding agreements to mitigate emissions by specific years.

2. World systems and social networks

It might be possible to put the world systems approach into dialogue with a social network approach. An application of world systems theory through a network approach would suggest that there are structural holes between states at different tiers in the capitalist world system. According to Burt (1997: 341) a structural hole is a gap between non-redundant contacts. When members of a social network are not in contact with members from another social network, a structural hole exists between the two networks. Because of the ‘hole,’ information does not move across the two networks (Burt 1997:
In network analysis, these holes can be breached. According to Burt (1997: 340), a manager can traverse the hole and “broker the flow of information between people and control the form of projects that bring together people from opposite sides of the hole.” The person who creates a link between these two groups achieves a more highly advantaged position. The link across the structural hole creates a channel through which information can flow between the two previously disconnected networks.

For world systems theory, there is no possibility that structural holes will be bridged. Core and peripheral states are linked because leaders from the former create institutions to extract resources from the latter. Other than a tie based purely on economic rationality, there is no reason for leaders from states at different levels of the world system to be in contact or to share information or resources in a mutually productive way. Using the specific case of climate change, leaders from more and less developed nations might come into contact with each other at global summits but because less developed countries can’t bring as many delegates, marshal enough resources, or because they simply lack ‘trust’ in developed states, there is little expectation that leaders from core and peripheral states will engage each other in a productive way.

But this may not be the case, especially when looking at the specific case of carbon neutral pledges. Carbon neutral pledging nations range from more to less developed: Norway, Monaco, Iceland, New Zealand, Vatican City, Costa Rica, Maldives, Bhutan, and Ethiopia have made the pledge. The fact that such highly diverse states have made identical pledges suggests that leaders in these states have talked or shared ideas about the policy. It may be that carbon neutral pledges happen as a consequence of a state mimicking another state. In order to mimic another state, it would make sense that the
gulf between these states was bridged through some type of dialogue. They may have communicated at the UN’s 2007 international conference on climate change (Gossling 2009) or at other international summits.

It may be that carbon neutral pledging states were in contact long before they made their pledges. In order to assess how states came to the point of deciding to make a carbon neutral pledge, it would be necessary to explore the social network in each state that made a pledge. Sandstrom (2011) argues that examining the structure of a social network can tell us something about how well a group will adaptively manage a resource and whether the group will be able to create a joint image about the problem and about the ecological system. She finds that groups are more successful in reaching these tasks when they have high degrees of both network closure and heterogeneity. Put differently, having a lot of intra-group ties (high network closure) helps a group create a joint image and manage a resource because they can share information quickly and they tend to have common views or values. Having a high degree of network closure is necessary, but not sufficient because the absence of bridging capital might prevent groups from being able to adapt to change. Groups also need to have heterogeneity, or have people in the group with ties to people in other groups. Groups benefit from this heterogeneity because it allows the group to traverse structural holes. Bridging a structural hole allows a group to get access to new information and resources.

Applying these lessons about network dynamics to the carbon neutral case, one could say that carbon neutral pledging states would need to have both high network closure and high heterogeneity to bridge structural holes. Network closure is sometimes called bonding capital, or ties among people who are similar, while the ability to bridge
structural holes is sometimes called bridging capital because a tie is established between people in different groups. It might be that in order to make a carbon neutral pledge, a state has to have both high bonding and high bridging capital. The bonding capital would be among political elites, scientists, industry leaders, and members of civil society within the particular pledging state. It is assumed that because these people are in the same state, they share some common features. In contrast, bridging capital would happen when people within the pledging state have a tie with people in other states. For example, the political elites in Costa Rica who are devising future environmental policy for the state might talk with political elites in Norway about why and how they decided to make their carbon neutral pledge, with the hope of replicating it in their own legislative district.

Bridging capital might not be strictly related to government figures. NGOs might also be able to bridge a structural hole in order to garner their support (or their lack thereof) for the pledge. They might do this by reaching out to global NGOs and getting them to put pressure on the governments of their own states in what has been called the “boomerang effect” (Keck and Sikkink 1998).

3. World society theory

Another macro-level approach that might be useful for studying carbon neutral pledges is called world society theory. In contrast to the economic explanations of world

---

3 I return to this term in section 5 below. According to Keck and Sikkink (1998), the boomerang effect happens when activists appeal to political leaders in their own states to change their stance on an issue or to hold them accountable for a previously made policy. When these activists are blocked from accessing their political figures, they appeal to a third party who then puts pressure on the initial state in question to change its stance on an issue. The assistance from this third party to help resolve the problem with the political figure in question is referred to as the boomerang effect.
systems theory, world society draws upon cultural explanations to explain states’ actions. World society theorists build on classical work of institutional isomorphism among organizations (DiMaggio and Powell 1983) and apply it to states in an international field, or what political scientists call “regimes” (Meyer 2010). As neo-institutionalists, world society scholars “[take] world culture seriously,” (Beckfield 2010: 1026). Models for statehood are drawn at the global level and then the components of these models trickle down to national level policies. In an attempt to follow the model for statehood, and thus comply with a rationally ordered world polity, states mimic other states’ policies in their own legislative initiatives (Meyer, Boli, Thomas, and Ramirez 1997). They do so by following a script (Meyer 2010). Despite vast differences across states in terms of economic development, political system, and other factors, scholars emphasize the similarities, rather than the differences, among states (Meyer, Ramirez, and Soysal 1992; Frank, Hironaka, and Schofer 2000). This is a significant point of difference for the world systems and world society approaches.

Meyer et al. (1997) use the hypothetical example of what would happen to a newly discovered island to illustrate their points about the world society dynamic. Meyer et al. (1997) claim that if a new island were suddenly “discovered,” the island would progress through a series of changes that other states have also experienced. These changes would include developing a political system and an economy and being recognized by other states (Meyer et al. 1997: 145). The island would change in ways that are “unexpectedly similar” to the ways in which other states have changed (Meyer et al. 1997: 145). Again, this explanation about uniform processes of incorporation into the world society is in direct contrast to those of the world systems theorists outlined above.
World systems scholars argue that states occupy different structural positions based on their avenues of “incorporation” into the world economy (Roberts 2006:42). In other words, states that are incorporated into the global economy as a colony have very different historical trajectories in terms of their economics and politics than do states that are incorporated into the economy as colonizers.

World society scholars argue that once something diffuses globally, it becomes part of the model for statehood. Protecting the environment is now part of this model for statehood (Frank, Hironaka, and Schofer 2000). Meyer, Frank, Hironaka, Schofer, and Tuma (1997) and Frank, Hironaka, and Schofer (2000) show that from the late 1800s to the late 1900s, there has been a global expansion in state activity directed toward environmental protection. Schofer and Hironaka (2005: 35-37) find that from 1951-1989, the growth of the structure, penetration, and persistence of global environmentalism is associated with a negative change in global output of both CO$_2$ and CFC emissions. However, they find that “… the coefficients of the environmental regime variables are greater in magnitude in models of CFC emissions than for models of CO$_2$ emissions, suggesting that world society has had more substantial effects on the former.” In addition, they add, “CFC emissions decline in absolute levels, whereas CO$_2$ measures do not,” (Schofer and Hironaka 2005: 37). These findings illustrate that although global environmentalism, measured as shifts in policies and discourse, has spread, it is not

---

Schofer and Hironaka (2005) argue that there are “three main dimensions characterizing institutional environments that have implications for environmental outcomes: structure, penetration, and persistence.” Structure refers to the degree to which there are organizations and activities organized around a particular issue. Penetration refers to the ability of institutional environmental to affect actors at multiple levels of scale (i.e., nation-states, firms, NGOs.) Persistence refers to the ability of dimensions of the institutional environment to exist over time.
directly correlated with an absolute decline in CO₂ emissions. This trajectory is consistent with research showing that the total volume of global greenhouse gas emissions continues to rise (World Resources Institute nd). When the authors move from the global to the national level, their data are much more limited and they find only modest and negative effects of the penetration of the global environmental regime on the CO₂ emissions of 120 countries between 1980-1996 (Schofer and Hironaka 2005: 38).

The spread of global environmentalism combined with the continuous rise in greenhouse gas emissions is an example of decoupling since the existence of policies to reduce emissions is not directly associated with actual emission reductions. This point illustrates that although world society theory might explain macro, global shifts in policies well, the theory is not always paired with substantive changes on the ground. World society theorists generally reject this criticism, arguing that, “the simple decoupling model looks at a single tree and misses the forest,” (Schofer and Hironaka 2005: 27). They argue instead for a focus on broader “institutional effects” that cumulate and over time lead to institutional changes (Schofer and Hironaka 2005).

National activities to protect the environment happened concurrently with the expansion of a global scientific culture and the creation of an international organizational structure. Protecting the environment is now part of the rational “blueprint” states follow (Frank, Hironaka, and Schofer 2000). States follow these blueprints indiscriminant of their levels of development or environmental degradation. All states are the same in this perspective. Norms are theorized to diffuse via three mechanisms: international environmental organizations, scientists, and pressures from other states, or “receptor sites” (Frank, Hironaka, and Schofer 2000, 102). Using this framework, a carbon neutral
pledge would be considered an emergent environmental norm states are adopting. The expectation is that once carbon neutral pledges appear in some places, they will spillover into other places.

In recent work, Hironaka (2014) argues that the dynamics of world society theory follow a “Bee Swarm” model. In the Bee Swarm model, social change “is due to the aggregation of causal factors pushing in the same direction,” (Hironaka 2014: 7). The sum of multiple forces, including policies, international treaties, social movements, public opinion, and international organizations, can influence changes in society but the presence or absence of any one of those forces may not make a difference for a particular outcome. The Bee Swarm model is inspired by the concept of loose coupling. Hironaka also uses the Bee Swarm model to respond to the critique that world society does not address the mechanisms by which the diffusion of certain policies or outcomes occurs. She argues that since particular polities differ greatly (politically, economically, historically, etc.), the relative effect of any one mechanism of diffusion (a conference, a policy, public opinion, etc.) will vary from country to country. This means that world society theorists do not look for universal mechanisms of social change.

Hironaka (2014) also explains how world society theory does not try to explain social change via particularly revolutionary individuals. Rather, she argues, social change, “results from mundane institutional activities rather than charismatic individuals or revolutionary action,” (Hironaka 2014: 17). Actors who attempt to be revolutionary are confronted with too many obstacles within the system to really bring about change. Instead, “agents,” or people who work within institutional structures, are empowered to work within the system to bring about change.
Most research in this tradition uses pooled panel regressions or event history analysis to illustrate patterns of global isomorphism. Scholars aggregate data over many decades to illustrate the diffusion. For example, the world has seen a global diffusion in enrollments in education (Meyer, Ramirez, and Soysal 1992, Schofer and Meyer 2005) and the use of Western science (Schofer 2004). In a notable exception to the tendency of using only quantitative methods, Schofer (2003) combines a historical account of the global expansion of associations of geology with a quantitative analysis of the institutionalization of the field.

An oft-cited shortcoming of this approach is that the mechanisms that lead states to become similar are often unclear. For example, a common finding is that states with more connections to the world polity, operationalized as the number of ties between a state and international non-governmental organizations, become similar to other states more quickly than do places with fewer such ties (Schofer and Meyer 2005:916, Frank, Hironaka, and Schofer 2000, Schofer 2003, Schofer 2004: 237). But why, and how, do these ties matter? As for the case of carbon neutral pledges, although some isomorphism appears to be happening because nine states made pledges, this approach does not explain why or how particular states choose to follow particular other states’ actions. The consistent use of quantitative analyses makes it hard to use this approach to explain the mechanisms that lead to isomorphism. Scholars have noted the “ambiguity about mechanisms” and have called for case studies (Schofer 2004: 238). At the same time, Schofer and Hironaka (2005: 40) have defended the ambiguity about mechanisms, arguing that, “Broad social changes… necessarily involve numerous complex and diffuse mechanism.” This means that an “overemphasis on any particular mechanism may lead
one to miss the big picture,” (Schofer and Hironaka 2005: 40). Rather, they advocate for identifying the multiple, and perhaps reinforcing, dynamics that lead to social change which include structural, cultural, and discursive forces.

In another critique, Buttel (2000) argues that the world society approach to environmental policies comes up short because scholars have not explored the respective roles of domestic NGOs, international NGOs, and government officials in making environmental commitments. Keck and Sikkink (1998: 33) critique the world society approach for failing to provide an explanation of the origin of world culture and for not allowing room for agency of individual people and social groups to change states’ positions. World society scholars have also been criticized for paying too little attention to important contextual issues (such as funding issues in local ministries of the environment or the level of democratization in a place), which would influence the effectiveness of environmental norms (Davidson and Frickel 2004: 479).

World society theory fits within the environmental governance conceptual framework of *global environmentalism* (Davidson and Frickel 2004: 479). The international recognition of environmental problems can encourage “environmental state building at the nation-state level” (Davidson and Frickel 2004: 479). World society theorists might make sense of the carbon neutral pledge by arguing that concern about climate change has spread globally and that the world culture now incorporates states’ responsibility to curb emissions into its definition of a rational state. The expectation would be that policies designed to curtail greenhouse gas emissions would spread across the globe- first in locations with many ties to the world culture and then to less well-connected places.
World society theory and world systems theory are typically discussed as antagonistic approaches to studying social problems. This means that the two approaches are not often incorporated into an analysis. In a notable exception, Shorette (2012) brings these two literatures together in a cross-national comparison of states’ use of chemical fertilizers and pesticides. While global cultural forces compel states to limit their use of these things because of the threats they pose to human health and the environment, international political economic forces motivate states to use these materials to produce more food, gain profit, and thus potentially move up in the stratified world system. She finds that integration into the world culture overall limits states’ use of these materials; however, the degree to which states reduce their use of these materials differs depending on states’ zones in the world system. The gap between a policy objective to curb the use of these materials and the actual environmental outcome of using fewer chemicals, also known as decoupling, is smallest in the core, moderate in the semi-periphery, and largest in the core. In other words, core states are less likely to experience decoupling than are states of the periphery. As she elaborates,

“Participation in international environmental organizations and environmental treaties significantly reduces agrochemical use overall but the effect is strongest in the core, moderate in the semiperiphery and absent in the periphery. These findings highlight the phenomenon of differential decoupling by world-system zone…” (Shorette 2012: 317).

The effects of a global culture influence states’ actions according to the world system zone in which states are located.

The world society approaches shares similarities with a state autonomy approach, or a focus on how states are freed from domestic economic interests. An extension of this is that the autonomy of states makes them open to the influence of extra-local groups.
World society theory illustrates a sense of state autonomy because states’ actions are determined by the global diffusion of norms rather than dominant domestic interests.

Work by Michael Mann and James Scott exemplifies this state autonomy approach. For Mann, potentially transformative interactions between domestic interest groups and the state are not the focus of his analysis. Rather, politics is a “black box” (Trentmann 2005: 294), and in politics, groups have predictable, expected interactions. For Brenner (2006: 189), commenting on Mann, societies are not unified wholes or “totalities.” Rather, societies are comprised of four institutions or networks or power: ideological (or cultural), economic, military and political (Collins 2005). States become modern when power shifts from the ideological to the military and economic dimensions (Collins 2005). Commenting on Mann, Collins (2005: 28) claims, “The state is a project, an attempt to control and coordinate force in as definite a manner as possible.” States are inherently powerful and when movements gain the attention of the state and get the state to act, they have been successful (Collin 2005: 30). In Scott’s (1998) view, state power builds as states accumulate ways to see and monitor people by using a variety of tools. These tools standardize and make legible complex, contextual details about human life. The process of making things legible increases state autonomy, which in turn makes a state more legitimate to other states. For both the world society approach and the state autonomy approach of Mann and Scott (1998), states’ freedom from domestic economic interest groups makes states open to the influence of actors outside the state.

World society approach does not consider the possibility that social change might happen first within a region, rather than as a global process of diffusion. Because there is considerable evidence that change happens first within a region before moving elsewhere,
this is a blind spot in the world society approach. Scholars have paid considerable
attention to regional processes of diffusion, but debates remain about how and why this
diffusion happens (Dobbin, Simmons, and Garrett 2007).

Regional diffusion might happen because of structural reasons. For example,
Beckfield (2010) finds that there has been a rapid proliferation in the creation of regional
organizations over the past two centuries. These regional structures might facilitate the
adoption of the same policies across neighboring states. Furthermore, states in different
regions of the world tend to join different kinds of intergovernmental organizations
(IGOs) (Beckfield 2010:1050). For example, the economic network of IGOs is denser in
Europe compared to the rest of the world. Therefore, the clustering of certain types of
IGOs in particular regions throughout the world might facilitate the adoption of specific
types of norms in different regions.

In contrast, policy diffusion throughout a region might represent a mimetic
institutional isomorphic change that is comparable to the ways in which organizations
look to fellow organizations during moments of ambiguity (DiMaggio and Powell 1983).
This is a more cultural explanation for the regional diffusion of policies. According to
DiMaggio and Powell (1983, 151), “Uncertainty is also a powerful force that encourages
imitation… when goals are ambiguous, or when the environment creates symbolic
uncertainty, organizations may model themselves on other organizations.” Because an
internationally binding treaty to reduce emissions has not been reached, it is unclear what
responsibility individual states bear in terms of mitigation. When a state looks to its
neighbor and replicates that neighbor’s policy in its own legislative district, the state has
reduced that ambiguity.
Finally, regional policy diffusion might come about due to a combination of both structural and cultural forces. Sikkink’s (2011, 58) work on the spread of human rights prosecutions for heads of state shows the importance of both structural and cultural reasons behind regional policy diffusion. She found that regional diffusion happened within a context of both global and regional cultural and political shifts. At the global level, “The trials in Greece and Portugal took place against the backdrop of changing international and regional attitudes about authoritarianism and human rights,” (Sikkink 2011: 34). Leftist movements in the US during the 1960s and 1970s, combined with the United States’ removal of troops from Vietnam in 1973, “opened more space for an emerging human rights consciousness in Europe and around the world,” (Sikkink 2011: 34). At the same time, there were also region-specific dynamics happening that influenced the spread of these trials across countries in southern Europe. It is worth quoting Sikkink (2011: 34) at length here to illustrate the combination of cultural and structural changes in Europe that facilitated the human rights trials. She says,

“In Europe, an awareness of human rights was initiated in the wake of the crimes of the Holocaust and World War II. Many Europeans believed that abuses were linked to the causes of the war, and that protecting human rights could also lead to increased security. Human rights issues were present in the earliest discussions of the postwar European order. Non-governmental organizations promoting European unity focused on these issues. Their call for a European human rights charter and court was later taken up by the newly created Council of Europe, and the Statute of the Council of Europe made respect for human rights and the rule of law conditions of membership in the council,” (Sikkink 2011: 34-35).

Attitudes, influenced by earlier historical events, led to the creation of organizations that promoted human rights. This illustrates how change happened as a result of interweaving cultural and structural forces. Without these dynamics, it is unlikely that the trials would have diffused throughout the region. In analyzing the spread
of human rights prosecutions, Sikkink (2011) finds that although the trials in Greece happened before the trials in Argentina, knowledge and awareness of the Argentine trials diffused globally and rapidly, while the Greek trials did not. According to Sikkink (2011), there are several reasons why the Argentine model spread and the Greek model didn’t. First, “Argentina was operating in a region where dozens of other countries were undergoing transitions at the same time,” (Sikkink 2011: 88). This illustrates the important regional dynamic: being close to other countries that are going through a similar historical process makes it more likely for the model to spread from one country to another country in that region. Second, “the Argentine human rights movement had inserted itself more firmly within the consolidating international movement,” (Sikkink 2011: 88). In other words, Argentine activists were able to bring their domestic struggle to the international stage to have their voices heard. Unlike activists from Greece, activists in Argentina “sought out international linkages and brought them into human rights work in Argentina,” (Sikkink 2011: 90). Activists used their personal networks, the media, and various publications to get the word out about the Argentine experience (Sikkink 2011: 91). Many activists from Argentina came to occupy positions of power in international organizations dealing with human rights and were able to channel experiences and ideas from the Argentine case to people confronting human rights problems in other countries.

Sikkink (2011) also points out some of the key events that allowed for the global diffusion of the norm to hold heads of state accountable for human rights violations. Specifically, she says that the “streambed of the justice cascade” began with, “… the Genocide Convention in 1948, the Geneva Conventions in 1949, and the Torture
Convention in 1984,” (Sikkink 2011: 123). These events set a legal precedent for the trials against heads of states. Furthermore, the surprising arrest of former Chilean dictator Augusto Pinochet in London in 1998 recreated a sense of what was possible in Latin America, specifically in Chile and Uruguay. Sikkink (2011: 122) writes that after Pinochet’s arrest, “… an unprecedented number of human rights cases started moving ahead in Chile’s courts.” In Uruguay, Pinochet’s arrest caused human rights lawyers to “wonder if they had been too passive with regard to their own amnesty law, which encouraged them to think about the new litigation strategies that eventually put ex-President Bordaberry in prison (Sikkink 2011: 122). Future research could investigate the regional structures and beliefs that may underpin the diffusion of carbon neutral policies.

4. Regime theory

Regime theory is another possible way to explain social change at the level of nation-states and might be helpful for accounting for the proliferation of carbon neutral pledges. Regimes are sets of norms and expectations that are united through rules or conventions (Krasner 1983). According to Dolsak (2009), most research on regimes adopts a functionalist approach: when states are more likely to achieve an outcome through collective, rather than individual, action, they create a regime. In other words, regimes enable international cooperation by codifying goals for individual actors. Young (1983:97) has adopted this view in his own work. Although regimes may arise for various reasons, the creation of the regime remains steeped in functionalist language. Once created, a regime governs the particular actions of its members. Scholars contend that regimes exist in nearly all issue areas in life and that individual people in regimes
recognize the constraints that regimes put on their actions. Puchala and Hopkins (1983: 86) write, “Statesmen nearly always perceive themselves as constrained by principles, norms, and rule that prescribe and proscribe varieties of behavior.”

Young (1989) has examined the role of international regimes in responding to specific environmental issues including marine fisheries and deep-seabed mining. In this work, he has identified the conditions under which different types of regimes arise in order to facilitate international cooperation: they can appear spontaneously, they can be negotiated, or they can be imposed by dominant figures. He has also described the substantive, procedural, and implementation components that all regimes include (Young 1989: 15-21). His approach has been critiqued for being limited to case study work and for eliding the political economic reasons that underpin states’ actions (or non-actions) on specific issues (Roberts 2006:39). In addition to this structuralist critique, modified structuralists have also criticized Young’s approach. They argue that although collective action is possible when individual action by a state fails, the development of a regime is something that requires very careful explanation (Krasner 1983).

In 1989, Young (1989:147) believed that carbon dioxide emissions were an unlikely problem to give way to the formation of a regime because although they “may cause severe damage in the future,” they do not create an immediate concern. More recent work suggests that the effects of climate change are already being felt (IPCC 2007). The confluence of several factors including the growing number of global summits on climate change, the persistence of climate change in cultural and discursive forms, and scientific awareness that carbon dioxide emissions lead to a warming climate with devastating consequences suggests that the norms for a global climate change
regime exist; however, by and large, these norms have not been implemented. As such, a climate change regime seems to be somewhat ethereal.

Dolsak (2009) describes the UNFCCC as an international regime to combat climate change. Coming out of the Rio Earth Summit in 1992, the United Nations Framework Convention on Climate Change came into effect in 1994 (UNFCCC 2014a). The goal of the convention was to stabilize global greenhouse gas emissions, and assigned different levels of responsibility for doing so to different states, dependent upon their levels of development (UNFCCC 2014a). The Kyoto Protocol then followed up on the suggestions of reducing emissions that were found in the convention and got some countries to commit to emission reductions (UNFCCC 2014b).

Keohane and Victor (2011) prefer to use the term “regime complex,” rather than regime to describe global action on climate change. They argue that regime complexes fall in between highly integrated regimes and highly fragmented arrangements. Regimes complexes are loosely coupled sets of ideas and institutions. In regime complexes, parts of the regime can be connected to other parts, but what is missing is “an overall architecture or hierarchy that structures the whole set,” (Keohane and Victor 2011: 8). Keohane and Victor (2011: 12) say that although “international cooperation on climate change has been under way for decades, yet there remains no central core to the emerging regulatory arrangements on climate change. Instead, what we observe is an array of regulatory elements that is only partially organized hierarchically.” Diverse interests, states’ uncertainty about the benefits of participation and whether other states will follow along, and a lack of linkages between climate change and other issue areas characterize the regime complex of global climate change. Although attempts have been made to
create an integrated regime for global climate change, most notably with the UNFCCC and the Kyoto Protocol, the global climate change has been characterized by gridlock rather than widespread and unwavering coordination.

Victor (2011) argues that rather than only searching for an internationally binding treaty on climate change, a more flexible and effective approach might be to encourage the development of “clubs.” Building on Olson’s (1965) work, Victor (2011) argues that climate change policies can be more effective when small groups of states work together to negotiate the climate change policies they are capable of meeting. The nature of “clubs” typically leads to higher rates of policy success because “when groups are small it is easier to channel the benefits of cooperation to other club members, which creates a stronger incentive for the countries that are in the club to sustain cooperation” (Victor 2011: 243). Clubs have historically been created when there is pressure on a few important actors to take action; however, it may be possible to conceive of states that have made carbon neutral pledges as a type of club. Nordhaus (2015) has also theorized about what an effective climate club would look like. For Nordhaus (2015), an effective mitigation club would penalize non-participating states by levying import tariffs upon them. He argues that the possibility of the tariff would incentivize nations to curtail emissions.

Building on this, we might say that carbon neutral pledges are an important component of the regime complex of global climate change. Perhaps carbon neutral pledging states represent an incipient “club” within the global climate change regime complex. There is a group of states that prioritize the principle of reducing carbon emissions to stem future climate change and the norm that they have chosen to bring
about that principle is to make a national carbon neutrality pledge. A carbon neutral regime might come about because of agreements between two (or more) individual states, or because a supranational organization dictates how multiple states should respond to a given issue (such as the UN). Carbon neutral pledges are worthy of study because of their salience. An examination of the processes surrounding these pledges should tell us something about climate stabilization regimes more generally.

Carbon neutral pledges might be considered a component of a global climate change regime because in order to fulfill carbon neutral policies, states must make significant sacrifices. This fits with the general message of regimes because, “Regime-governed behavior must not be based solely on short-term calculations of interests. Since regimes encompass principles and norms, the utility function that is being maximized must embody some sense of general obligation,” (Krasner 1983, 3). The pledges might be the expression of widespread concerns about states’ abilities to curb the production of greenhouse gas emissions as part of an obligation to current and future generations.

While there is a general agreement that an internationally binding agreement to reduce emissions is vital, scholars recognize the challenges of reaching this goal (Mann 2013, Ostrom 2010, Roberts and Parks 2007, Roberts et al. 2004). A globally binding agreement on climate change would be an example of a regime that is responding to the threat of climate change. Despite Dolsak (2009) and others’ work on the relevance of regimes in the study of climate change, some people are skeptical about the possibility that a global, binding treaty to reduce emissions could ever be created. According to Mann (2013: 396), an internationally binding agreement to curb emissions is so difficult to achieve because it would require changes in the three fundamental components of a
capitalist system: change in consumer culture, limit to the power of capitalism, and a reduction in the power of individual states and politicians.

III. State-in-society approach

The macro-sociological theories outlined above promote “theoretical generalizations valid [across states] in all times and places” (Paige 1999:784), but they have little to say about the intra-state conditions that would explain national commitments to carbon neutrality. This single scale tendency in their arguments means that they often do not appreciate the way historically contingent, scale diverse conjunctures of conditions can cause states to pursue policies that deviate from general patterns. To develop a better understanding of why states make carbon neutral pledges, we need to view states in the context of the societies that they govern. This state-in-society approach argues that the politics of a state reflect the societies in which states are embedded (Migdal 2004). A few examples should clarify how scholars have approached their studies with a state-in-society approach.

Van de Walle (2001) found that African political elites’ relationships with other elites influenced the policy decisions in those states. More specifically, states that failed to provide public goods for their people instead pursued policies that benefitted particularly well-placed or influential factions or families. Thus, these states exhibit a neo-patrimonial form with clientelism and low state capacity. The corruption\(^5\) of elites in these states, evident in the neo-patrimonial form of governance that leaders adopted, led to states’ inability to provide public goods for their people. This finding follows the state-

---

\(^5\) By corruption, I mean “the abuse of entrusted power for private gain,” (Transparency International 2015).
in-society dynamic, in which domestic political relationships influence national level policy outcomes. Furthermore, based on her research in the Netherlands, Japan, and the U.S., Fisher (2004) argues that the relationships between four key sectors of society (the state, the market, science and civil society\(^6\)) influenced whether states ratified the Kyoto Protocol. For example, in the U.S, figures from the powerful coal industry pressured government to avoid ratification. Both Fisher’s (2004) finding that the power of fossil fuel industries in the US prevented the American state from ratifying the Kyoto Protocol and Mann’s (2013: 375) finding that in the US, “business sectors remain the main opponent of emissions control proposals” follow this same state-in-society dynamic in which dominant domestic interest groups strongly shape policy outcomes.

Zahran et al. (2007) use a quantitative cross-national approach to compare the domestic political, economic, and cultural factors that led some states to ratify the Kyoto Protocol. States with greater political openness, higher scores on indices of democracy, higher energy efficiency, lower CO\(_2\) emissions, and higher levels of educational development were more likely to ratify, compared to others. In some ways, these findings replicate those of Fisher (2004). These findings illustrate a state-in-society approach, since a particular constellation of domestic political, economic, and social factors in those societies made the states in those societies more likely to ratify the Kyoto Protocol.

Relatedly, Dolsak (2009) examines the factors that are associated with states’ implementation of policies associated with the UNFCCC. While both domestic and international factors affect the degree to which states have reduced greenhouse gas

\(^6\) For Fisher (2004: 57), civil society can be either “internal or external to the policy-making process.” She considers “social movement organizations, civic associations, transnational nongovernmental organizations, and citizens who voice their preferences through their demonstrations, votes, and pocketbooks” (Fisher 2004: 57).
emissions, domestic ones matter more. Specifically, the extent of local air pollution, states’ vulnerability to climate change, and states that score higher on their extents of civil liberties are all positively associated with implementing more climate change policies. In addition, higher levels of embeddedness in a global environmental network (measured by the “number of NGOs in each country that are members of the… IUCN… the oldest international environmental membership organization,”) is associated with higher levels of implementation (Dolsak 2009: 562). In contrast, states’ degrees of dependence on fossil fuel exports are associated with lower levels of implementation. Her findings suggest that states might implement policies to curtail global emissions in order to also respond to more local environmental problems, such as air pollution.

Fisher and Freudenburg’s (2004) findings replicate this same state-in-society dynamic. In explaining states’ carbon dioxide emissions, they find that (controlling for other factors), neither economic measures such as GDP nor measures of environmental institutionalization predict states’ emissions. In other words, both the political economic and the cultural expectations come up short in explaining states’ emissions levels. Rather, two measures of ecological efficiency (kilometers of motor vehicle travel per capita and states’ kilograms of industrial waste) predict states’ emission levels. The authors claim, “these two forms of ecological efficiency may be more accurately seen as representing relatively explicit, nonsymbolic policy choices by nation-states, as well as by individual firms,” (Fisher and Freudenburg 2004:178). The policy choices that states make better explain states’ emissions than do economic indicators of states or degrees of environmental institutionalization. This follows the state-in-society dynamic because
certain kinds of states in certain kinds of societies can take on these policy measures and thus produce fewer emissions.

In a cross-national comparison on which states tend to sign international environmental treaties, Roberts (2006) finds that a state’s world system position explains the most variation in whether or not states sign, but internal measures also matter. Specifically, states with more repressive regimes and states with high rates of spending on the military per capita are less likely to sign treaties, compared to others. Thus political and civil rights, as well as the relationship between the military and the government can influence a state’s posture on environmental issues.

The state-in-society approach shares something with the world systems approach. Neither approach sees the state as autonomous. For the state-in-society approach, a state’s actions are a reflection of the local economic interests groups. For the world systems approach, a state’s actions reflect the state’s position in the world economy.

Although this state-in-society approach provides theoretical leverage by focusing on the domestic factors that constrain or enable state activity, the state-in-society argument has its shortcomings. The ways in which historical conjunctures of social forces influence the structural form of states are often unclear, so the societal origins of political change are occluded. In other words, while the theory explains what states are and how they act, the ‘society’ part of the argument is underdeveloped. The work of Evans and Rauch (1998) is useful here. They found that states with certain institutional structures, meritocratic recruitment and predictable career rewards are institutional, as opposed to just normative, structures of bureaucracies. As Evans and Rauch (1996: 751), these two structures are “organizational features” of bureaucracies. These features of bureaucracy, however, can have normative effects on people. Meritocratic recruitment, for example, can “generate corporate coherence and esprit de corps, which in turn can be argued to

7 Meritocratic recruitment and predictable career rewards are institutional, as opposed to just normative, structures of bureaucracies. As Evans and Rauch (1996: 751), these two structures are “organizational features” of bureaucracies. These features of bureaucracy, however, can have normative effects on people. Meritocratic recruitment, for example, can “generate corporate coherence and esprit de corps, which in turn can be argued to
or those characterized by meritocratic recruitment and predictable career rewards, promote economic growth more than other state structures. Related to the carbon neutral issue, particular types of structures and particular societal forces may give way to carbon neutral pledges. In what follows, I examine a set of societal factors that might speak to the kinds of states that are more inclined to make carbon neutral pledges. The societal factors are scale, class structure, governance, and NGO presence.

Before doing so however, it would be useful to briefly characterize a carbon neutral pledge as an example of a public good. According to Blumel, Pethig, and von dem Hagen (1986), public goods share two defining characteristics. First, public goods must have joint consumability. In other words, one person’s consumption or use of a good cannot restrict or prohibit another person’s use of a good. This is also sometimes called the non-rival aspect of public goods. Without being non-rival, a good cannot be a public good. Second, a public good must be non-excludable. In other words, once the good is created, some users cannot be barred from using the good. Although the degree to which a good is non-excludable happens as a matter of degree (rather than as an all or nothing characteristic) it is still a defining characteristic of public goods.

A carbon neutral pledge is a public good because the outcome of the pledge can be jointly consumed. When one person enjoys the benefits of an atmosphere with fewer carbon emissions, this does not prohibit another person from consuming or enjoying the same atmosphere. Also, the outcome of the pledge is non-excludable. As policies are created to produce fewer carbon emissions or to sequester more carbon, people cannot be
excluded from breathing in the air in the atmosphere. What sorts of attributes account for the adoption of the pledges?

IV. Societal factors

Four societal factors, two underlying, two more proximate causes appear to influence the states in those societies to take on a carbon neutral pledge. While underlying causes, such as scale, are “fundamental social processes,” proximate causes are “human activities” that happen at the “local level,” (Geist and Lambin 2002: 143). Underlying causes, like scale and class structure, influence the development of proximate causes, like good governance and NGO presence. This section starts with a discussion of scale, an underlying social process.

1. State/ societal factor: Size

The first of the societal factors that may influence which states adopt carbon neutral pledge is the factor of population size. Population is a consistent and positive driver of global environmental change (Rosa, York, and Dietz 2004). It may be that states with fewer people emit fewer greenhouse gases to begin with and thus see a carbon neutral pledge as a relatively feasible goal. At the same time, it is also understandable why small states might not make a commitment to reduce emissions. As Battig and Bernauer (2009: 283), “Small actors can, individually, make only a small contribution to solving the overall problem and should thus have an especially strong incentive to freeride on the efforts of bigger actors.” In other words, it is not necessarily obvious that small states will take the lead in making mitigation pledges.
While total population is one indicator of state size that others have used (i.e., Ott 2000), pledge making might not just be about the size of the population per se, but rather by the size of the coalition within the state that was put together to negotiate the terms of the pledge. A national carbon neutrality commitment would require a coalition of people to come together and agree upon the terms of the pledge; this feat may be easier in smaller states. Small states might have political arenas that are more conducive to collective action, and thus would be more inclined to make carbon neutral pledges. According to Olson (1965), smaller groups are more effective than larger groups at providing collective goods. So size might matter not only in terms of population size and overall greenhouse gas emissions (Rosa, York, and Dietz 2004), but might also matter in terms of the ease with which a coalition for carbon neutrality was assembled.

One dimension associated with the factor of smallness is the issue of transaction costs. The relationship between transaction costs and size can be positive or negative. On the one hand, as Ostrom (2009: 421) says, “The impact of group size on the transaction costs of self-organizing tends to be negative given the higher costs of getting users together and agreeing on changes. If the tasks of managing a resource, however, such as monitoring extensive community forests in India, are very costly, larger groups are more able to mobilize necessary labor and other resources.” Larger groups have an easier time managing a resource because they can easily mobilize people to different

---

8 According to Allen (1999), the term “transaction costs” has both property rights and neoclassical definitions. The property rights view defines transaction costs as “the costs establishing and maintaining property rights,” (Allen 1999: 898). In contrast, a neoclassical view sees transaction costs as “the costs resulting from the transfer of property rights,” (Allen 1999: 901). My use of the term is more closely related to the property rights definition. When I say “transaction costs of self-organizing” I am referring to the expenses of time and energy that it takes for the members of a group to coordinate in order to meet together.
tasks or areas associated with watching over a resource. On the other hand, the relationship between transaction costs and size can be positive when a group is trying to establish a compact. With large groups, it is hard to get all members of the group together to reach a shared decision. In contrast, with smaller groups trying to reach a decision, there are fewer people to bring together so the transaction costs are lower.

There are several reasons why smaller groups have lower transaction costs and can make collective decisions more quickly. Here, the work of Mancur Olson (1965) is relevant. He says that in smaller groups, individual members realize that they have greater agency over decisions that are made, so they tend to dedicate themselves more to the issue at hand (Olson 1965:53). Also, in a smaller group, “some or all of its members will have an incentive to see that it does not fail. This is not true of the large group,” (Olson 1965:57). Ostrom (2009:421) has a similar argument. She finds that smaller groups are more inclined to collectively govern shared resources than are larger groups. Also, small organizations that are nested within larger organizational structures tend to be able to create beneficial and enduring governance rules and structures (Ostrom 1999:6).

Although states are responsible for providing public goods to their citizens (Olson 1965:15), research on the effects of group size on the provision of public goods has been undertaken at small scales of analysis, such as in laboratory experiments or through game theory (Fehr and Gintis 2007, Marwell and Ames 1979, Ostrom 2000, Ostrom 2009, Rudel 2011, Swedberg 2011). Therefore, the degree to which these findings can be scaled up to explain how nation-states of different sizes provide public goods remains thus far unclear. Examining the conditions under which a coalition came together to agree upon
the terms of a carbon neutral pledge in one small state could tell us something about how size affects the provision of public goods.

2. State/societal factor: Class structure

A second social force that might incline governments to make carbon neutral commitments is the class structure of the state. Societies that are characterized by economic equality are theorized to be more inclined to adopt the pledge. As stated earlier, Mann argues that social power rests in a state’s four networks of power: military, economy, politics, and ideology. Because of this, it is unusual for Mann to conceive of a society as a coherent whole (Brenner 2006). However, there have been rare cases of societies that resemble coherent organisms. There have been cases of societies, or coherent totalities, that “possessed a social unity” within “a single socio-geographical area” (Mann 1986, quoted in Brenner 2006: 190). Unitary societies exist in bounded geographical regions when the four networks of power are interdependent (Brenner 2006). When there are more links and more dependencies across a state’s networks of power, a society that is characterized by social similarity is more likely to exist.

Fisher’s (2004) findings from Japan provide an example of how interdependent networks of power in a state can lead to decision-making. One of the main reasons Japan signed the Kyoto Protocol was because the state collaborates well with industry and science (Fisher 2004: 80). These connections across networks of power make it easier for the state to make decisions to benefit society. For carbon neutral pledging states, it is theorized that pledge states would have more connections between the networks of social power than do non-pledge states.
Hall (2006, 49) elaborates on this concept of the unitary society by adding that government systems that provide generous public goods have “…very high levels of social homogeneity.” In other words, societies that resemble a totality within a specific area are characterized by similarity and the governments in those places tend to provide more public goods for their people. Van de Walle’s (2001) work offers an interesting counterpoint to Hall’s elaboration of the unitary society thesis. Van de Walle (2001) finds that in societies with great wealth disparities between the ruling elite and the population, elites tend to underprovide public goods. Societies with vast economic differences and a small ruling elite that generously provides favors to a select group of people are not the kinds of states that would be expected to commit to something like a carbon neutral pledge. State officials may be more inclined to invest in public goods in places without severe class differences for two reasons. First, the people are of a similar class position as elites, so elites are contemplating the provision of public goods to people who are similar to them. Second, because there is a relatively high degree of income equality, social programs can help a majority of the population rather than just a small segment of society.

Relatedly, Ostrom (2009) also finds that societies characterized by similarity have an easier time providing public goods. She says, “Users of all types of resource systems who share moral and ethical standards regarding how to behave in groups they form, and thus the norms of reciprocity, and have sufficient trust in one another to keep agreements will face lower transaction costs in reaching agreements and lower costs of monitoring.” In other words, groups comprised of people who are similar find it easier to make shared
decisions. In societies characterized by vast economic inequalities, elites are less inclined to provide public goods for members of the population.

Population size and class structure are “fundamental social processes” (Geist and Lambin 2002: 143). These two underlying social forces underscore “human activities” that happen “at the local level” (Geist and Lambin 2002: 143). Scale and class structure underpin the development of good governance and strong INGO presence.

3. State/ societal factor: Governance

A third societal characteristic that may influence whether states make a carbon neutral pledge is governance. The way in which a state governs, and the extent to which a state can provide public goods independent of the influence of interest groups may affect whether states make carbon neutral pledges. Governments that are perceived to be effective and fair might be more inclined to make a carbon neutral pledge because they may be more willing to invest in activities that benefit people but that require significant sacrifices of time and money.

According to Battig and Bernauer (2009: 286) democracy “has a positive effect on the demand for and supply of public goods.” This positive effect even includes, “global public goods such as climate change mitigation,” (Battig and Bernauer 2009: 286). They describe two reasons for this. First, “In democracies, provision levels of public goods are influenced much more strongly by the preferences of the median voter… The median voter (or the individual member of the electorate) in democracies incurs smaller opportunity costs from more environmental protection, relative to the median member of the ruling elite in a non-democracy,” (Battig and Bernauer 2009:
The relative costs of protecting the environment are lower for the average voter in a democracy than they are for members of a small ruling elite in a non-democracy.

The second reason why democracy is conducive to public good provision has to do with the ratio of the governing body to voters. In a democracy, the size of the governing body is large in comparison to the size of people being governed. A representative democracy is a means of inclusion, as it creates the opportunity for more widespread popular participation. In non-democratic states, the size of the ruling elite tends to be small in comparison to the size of those being governed. In non-democratic states, elites can afford to give private provisions to allies. In a democracy, leaders typically do not have enough resources to give to their supporters to help them maintain their power, so they resort to the provision of public goods to keep citizens happy.

Related to the distinction outlined above between underlying and proximate social causes (Geist and Lambin 2002), Ott’s (2000) work underscores how underlying causes lead to proximate social dynamics. In her cross-national and case study work, Ott (2000: 197) found that small states (measured by total population) were more likely to be democratic and to remain democratic, relative to larger states. There are several reasons for this. One of these reasons is that in small states, citizens have “greater access to their political leaders,” and this allows leaders to respond to people’s concerns (Ott 2000: 203). This bolsters democracy in a place. Another reason is that in small states, “the number of elites is much smaller, and those elites are likely to know one another very well,” (Ott 2000: 195). Because the “political realm” is much more constricted in a small, as opposed to large states, elites have an incentive to collaborate because they are likely to find themselves working together again on another project soon (Ott 2000: 203).
4. State/ societal factor: Non-Governmental Organizations

A final societal feature that might make some states more likely to make carbon neutral pledges is a measure of civil society. States with a more abundant presence of global environmental NGOs and states that afford civil society leaders greater access to the political process might be more inclined to make pledges, compared to places where civil society leaders are excluded from the political process. NGOs are a form of governance that aid in the management of resources (Ostrom 2009). NGOs work to enhance, hold accountable, and sometimes take the place of, governments’ provision of public goods (Besley and Ghatak 1999). Some scholars have theorized that NGOs bear the primary responsibility for providing public goods, while other have argued that it is the job of NGOs to step in to provide public goods when governments fail to effectively provide them (Meyer 1996: 455). As Beyer (2007) has argued, there are many benefits of having NGOs participate in global governance. International NGOs in particular can "create transnational ties between the local and the global level" (Beyer 2007: 521). One advantage that NGOs have in the provision of public goods is that they can have great “flexibility” in terms of the contracts they can establish with both the public and private sector (Meyer 1996: 470). This can be an advantage in terms of what NGOs decide to pursue, but it also brings its own challenges. For example, because Southern NGOs often depend on funding from the Global North, they not only have to respond to local concerns, but also have to act in accordance with the goals of their Northern donors (Meyer 1996: 458). Donors in Northern states would likely be displeased if their money funded work in authoritarian states.
It is possible that measures of good governance and NGO presence work in tandem. States that rank highly in terms of good governance are also likely to be places that are conducive to NGOs’ meeting their goals. For example, Lewis (2000) found that political factors of a country, not indicators of biological diversity, determine whether transnational social movement organizations (TSMOs) work in a country. These organizations both choose where to work and are more effective in states that are characterized by political “openness” and that already have domestic NGOs working on environmental issues. Citing Kitschelt (1986) and Rucht (1989), Lewis (2000: 108) describes political openness as “a function of how possible it is for organizations to participate formally in political procedures.” International NGOs will pursue work in countries where they are more likely to have access to influencing the political process, and thus achieve their goals.

Lewis’s findings from her work on where NGOs choose to work are similar to those from her work on the places where US-based and global multilateral donor agencies donate environmental aid. Also, according to Lewis (2003), US-based and global multilateral donor agencies tend to donate environmental aid to stable democratic states that have economic and security ties to the U.S. Stable, highly democratic places are attractive places for international environmental NGOs to work because politicians in these places give NGO advocates for public goods a hearing in policy formulation processes (Lewis 2003). Also, “increasing interest group pluralism may thus weaken the pro-business bias of interest group politics and hence promote green interests” (Battig and Bernauer 2009: 289). This finding replicates that of Fisher’s (2004) work on the relationship between civil society and states’ positions on the Kyoto Protocol. States in
which civil society leaders had greater access to decision-making elites were more
inclined to ratify the protocol. In other words, stable democracies are attractive places for
NGOs to work because leaders are confident that politicians will hear their concerns. This
makes democracies, in general, more conducive to collective action brought about by
interest groups when compared to non-democracies.

Another way to theorize the role of NGOs in the process of carbon neutral pledge
adoption is with strategic action coalitions. According to Fligstein and McAdam (2012:
9) strategic actions fields are the “fundamental units of collective action in society” and
they usually bring about some type of coordinated action. Strategic action fields are
comprised of incumbents, who occupy the dominant positions before the coordinated
action begins, challenger, who hold the less privileged positions, and governance units,
who work to protect the incumbents and maintain the status quo. Coordinated action in a
strategic action field can come about because of coercion by one group over another,
competition between groups, or cooperation between groups to reach a shared goal. To
reach a shard goal, members must have a shared set of understanding about the goal they
are trying to reach. Political coalitions are ideal-typically characterized by cooperation.
“\This cooperation is generally rooted in a combination of shared interests and a common
collective identity,” (Fligstein and McAdam 2012: 15). Fligstein and McAdam’s (2012)
point about shared interests and common identity sounds similar to Sandstrom’s (2011)
point about how groups that collectively manage a resource have a high degree of intra-
group ties. But bridging capital, or the ability to traverse structural holes (Sandstrom
2011), can also play a role in strategic action coalitions. Sometimes this happens through
negotiation. In creating political coalitions, Fligstein and McAdam (2012: 15) write, that
sometimes actors “have to convince other groups that if they join together, their collective interests will in fact be served.” So a political coalition that is characterized by cooperation needs to have members with shared interests and a common identity (Fligstein and McAdam 2012), but likely also needs to have the ability to establish links to dissimilar groups in order to achieve its goals.

Keck and Sikkink (1998) offer a different terminology and explanation of how civil society can be involved with social change. An international campaign concerned with climate change formed and actors in this campaign pressured states to adopt the measure. Keck and Sikkink (1998) use the term “transnational advocacy networks,” or TANs, to refer to groups of actors who organize around a particular issue, have shared values, a common discourse about the issues, and exchange information and resources about the campaign. These networks pursue specific activities to influence states. One strategy TANs use is what Keck and Sikkink (1998) call the “boomerang effect.” In this case, activists appeal to political leaders in their own states to change their stance on an issue or to hold them accountable for a previously made policy. When these activists are blocked from accessing their political figures, they appeal to a third party who then puts pressure on the initial state in question to change its stance on an issue.

The above-cited readings might apply to the case of carbon neutral pledges in a variety of ways. Lewis’s findings about political openness are likely the most relevant. Many of the states that have made carbon neutral pledges are stable, democratic places with reputations for political openness (i.e., Costa Rica, Norway, New Zealand). Once NGOs end up in stable democratic places, they likely find the political environments there to be conducive to meeting their goals, and thus put pressure on government to
make a carbon neutral pledge. International NGOs likely choose to work in these states in the first place because they are relatively stable places where activists can push the state to adopt a more ambitious stance of climate change, perhaps in the form of a carbon neutral pledge. Also, NGO activists would be expected to build bridges in order to facilitate coalition building in these contexts.

As for strategic action coalitions, it is conceivable that a political coalition came together in each of the pledging states to make the policy. It would be important to understand the pre-existing networks that existed, which may have helped in the creation of a carbon neutral pledge coalition. Finally, it is unlikely that Keck and Sikkink’s (1998) description of social change via transnational advocacy networks applies to the case of carbon neutral pledges. This is because carbon neutral pledges do not fit either of Keck and Sikkink’s (1998:27) characteristics of issues that are amenable to effective campaigns by TANs: they do not involve physical harm to subjects and they do not involve legal equality of opportunity. Also, a transnational advocacy networks would probably be more likely to pursue a campaign against a state that had done nothing to respond to climate change, not one that was debating whether to pursue an ambitious goal like a carbon neutral pledge.

Taking these influences (population size, governance, and NGO presence) into consideration to understand states’ actions fills in some of the gaps in the state-in-society approach (Migdal 2004) by illuminating possible societal factors for political change.

V. Symbolic action
There is a final, important point about the nature of the carbon neutral pledge that is worth noting. A carbon neutral pledge is very likely an example of symbolic action. Politics often draws upon symbols (Edelman 1964) and political policies in particular might be one part of politics where symbols are important. According to Anderson (2003), public policies range on a spectrum from material to symbolic. Material policies, “either provide tangible resources or substantive power to their beneficiaries, or impose real disadvantages on those who are adversely affected,” (Anderson 2003: 11). In contrast, symbolic policies “appeal to people’s cherished values, such as peace, patriotism, and social justice,” (Anderson 2003: 11). At first glance, a carbon neutral pledge seems to be a classic example of a symbolic policy since the goal for a nation to emit zero net carbon emissions seems very difficult to achieve. Also, a carbon neutral pledge might be the embodiment of postmaterialist values, as explained by Inglehart (see Brechin 1999). A national carbon neutrality pledge is easy to promise and it might even be easy to pass through a legislative body because of its appeal to global environmental concern.

However, as Anderson (2003) points out, policies that seem to be completely symbolic can have important material consequences. The tourism industry is the largest contributor to Costa Rica’s economy, so the carbon neutrality pledge might have been a way for political elites to bolster international tourists’ interests in the country. If this is the case, the symbolic pledge could have real, measurable, economic consequences for the country.

There are two reasons why some states might be more likely than others to take on symbolic actions. The first has to do with the narrative of the history of the state and
the second has to do with size. States in which elites characterize the history of their state as highly unique or exceptional might be more likely to make carbon neutral pledges. It may be that states that make carbon neutral pledges have a history of taking on policies that speak to people’s values. Costa Rica’s elimination of its army in 1948 after a brief civil war is an example of a political decision that makes a very high appeal to the value of peace. The carbon neutral pledge is another example of symbolic action and may represent the latest example of a long line of extraordinary actions undertaken by pledge-making states.

There might also be a link between symbolic action and size. Here, I draw upon the work of Van Rossem (1996). According to Van Rossem (1996) the size of a state’s economy, measured as overall GDP, is the best predictor for a state’s role in the world system. However, the size of an economy is not only achieved through economic development “but also through sheer physical size- population size and geographic size,” (Van Rossem 1996: 518). Powerful states, or states that have a huge GDP, population, and geographic size, can act (symbolically or not) however they choose. These are states that have resources, both economic and social, at their disposal. Examples of these types of states would be the U.S. and China. Symbolic actions may be of less importance to them because they do not feel a need to build partnerships with others.

Small states, or those that have neither large populations nor large geographic masses to call their own, have to be strategic about the actions they pursue. Furthermore, when small states do not have large GDPs, they have to be very selective and very crafty in terms of the policies they pursue. States with few economic resources at their disposal, a small number of people, and a small geography have to be strategic at the international
level in order to appeal to other states and to tourists from all over the world. Strategic action at the international level, perhaps in the form of a carbon neutral pledge, might be one of the key ways in which small states survive in a competitive market.

Conclusion

In this chapter, I have reviewed the ways in which climate change mitigation activities have been studied at the micro and meso levels. I have reviewed the literature on world systems theory, world society theory, and regime theory, three macro level sociological approaches to studying mitigation. Then I introduced the state-in-society approach, which seeks to understand states’ political actions not as a consequence of global forces but rather as a result of the societies in which those states reside. To further hone in on how particular dimensions of a society may cause a state to make a carbon neutral pledge, I examined the factors of size, class structure, governance, and NGO presence. Finally, I concluded with some ideas about how carbon neutral pledges might be an example of symbolic politics and reasons why some states are more inclined than others to engage in this type of politics.

Based on the literatures cited above, pledging nations are theorized to be located in societies that would encourage the generous provision of public goods. These states are theorized to be small, have egalitarian class structures, good governance, and many environmental INGOs. The following chapter investigates what common factors pledging nations share, through the use of a fuzzy-set qualitative comparative analysis.
Chapter 3: Cross-national comparative analysis

The previous chapter outlined various theoretical approaches that might be useful for explaining why some states would make carbon neutral pledges. The purpose of this first empirical chapter is to identify the forces that incline states to adopt carbon neutral pledges. First, newspaper articles are examined in order to identify which states have made the pledge and when. Then, a fuzzy-set qualitative comparative analysis (fsQCA) is used (Ragin 2008) to compare political, economic, and social conditions in states with carbon neutral pledges to conditions in a randomly selected group of states without such pledges. These findings are then used to identify the institutional profile of a country that is likely to adopt a carbon neutral pledge.

The analysis of pledge making proceeds as follows. First, data from a content analysis of newspaper articles is used to uncover how well the two lines of argument outlined in the previous chapter about pledge emergence and spread explain the case of carbon neutral pledges. Second, drawing upon the state-in-society approach, fsQCA is used to identify common conditions among pledge states. The discussion in this chapter is used to return to the hypotheses and explain how well they predict the circumstances under which states adopt carbon neutral pledges.

Set up

In review, world society theory and world systems theory offer descriptions about where the pledge would emerge and spread. The state-in-society approach offers explanations about the circumstances under which states would make a pledge. Building on these descriptive and analytic frameworks, I move into my two-stage data collection and analysis process.
The following hypotheses, drawn from the state-in-society approach, suggest the kinds of states that would be inclined to make carbon neutral pledges:

1) States dependent upon extractive industries will be less likely to make carbon neutral pledges

2) States dependent upon industries that could benefit from the pledge will be more likely to make the pledge

3) Neopatrimonial states, or corrupt states led by small groups of elites, would tend not to promote public goods that would benefit the entire society and thus will be less likely to make the pledge

4) States with more international environmental NGOs should afford civil society representatives greater access to elite decision-makers and thus should be more likely to make the pledge

Materials and methods

*Content analysis of newspaper articles*

To document pledge emergence and spread, newspaper articles are used to assemble a list of all pledge states and determine the order in which states made pledges. Carbon neutral pledges are made as political announcements. It is often not until many years later that states create national plans to reach the goal. Newspaper articles are the first source to report on pledges and thus are the best source available to identify the pledge states. In March 2014, I used the database Access World News to collect my sample. I limited my search to newspapers and newswires. A search using the term “carbon neutral” yielded nearly 24,000 results, most of which did not deal with national carbon neutrality pledges. To narrow the results in a productive way, I used the search
terms: “carbon neutral country” OR “carbon neutral state” OR “carbon neutral nation” and did not limit the time period. This search yielded a sample of 298 articles. An inclusion criterion was that the article had to mention a state’s carbon neutral commitment. Sometimes the entire article was about the pledge and other times the author mentioned the pledge in passing. I read all of the articles and found that 46 were not applicable to my study because they discussed carbon neutral pledges at other levels of scale (such as states within a country). The final sample size consists of 252 articles.

Results from newspaper analysis

I found that 13 states were mentioned as having made a pledge: New Zealand, Norway, Vatican City, Costa Rica, Scotland, Iceland, Maldives, Monaco, Bhutan, Ethiopia, United Arab Emirates, Sri Lanka, and Denmark. Some countries’ commitments only appeared in a single article (United Arab Emirates, Sri Lanka, and Denmark). To account for potential biases in newspaper reporting, I triangulate the newspaper data with data from two websites and four databases of peer-reviewed journal articles. I present the results in Table I. To account for possible errors in reporting, states’ pledges had to be mentioned in at least two of the four sources (Access World News, either of the two websites, or the databases), to be included in my analysis. Using this criterion, I identified nine pledge states. Three (Norway, Costa Rica, and the Maldives) were mentioned in all

---

9First, I searched two websites: the now archived United Nations Environment Programme’s (2008) climate neutral network’s list of ‘participants’ (among states) and the Climate Action Tracker (2011), a climate change watchdog group. I used these websites because these organizations catalog states’ climate change policies. Second, I searched for articles in the databases of ScienceDirect, PAIS, Academic Search Premier, and ProQuest Environmental Science Journals. I used the search terms “carbon neutral” AND state*, “carbon neutral” AND countr*, and “carbon neutral” AND nation* and limited the search to articles that included these terms in the abstract and that were peer-reviewed. I used these databases because they would likely be among the first to report on the climate neutral issue for a scholarly audience.
four sources and one (New Zealand) was mentioned in three sources. The remaining five states (Vatican City, Iceland, Monaco, Bhutan, and Ethiopia) were mentioned in two of the four sources.

Table I: States that have pledged to go carbon neutral by source with date of first newspaper coverage

<table>
<thead>
<tr>
<th>#</th>
<th>Country</th>
<th>Access World News</th>
<th>UNEP Climate Neutral Network</th>
<th>Climate Action Tracker</th>
<th>Peer-reviewed journal articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New Zealand</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13 Feb. 2007</td>
</tr>
<tr>
<td>2</td>
<td>Norway</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24 April 2007</td>
</tr>
<tr>
<td>3</td>
<td>Costa Rica</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 August 2007</td>
</tr>
<tr>
<td>4</td>
<td>Vatican City</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17 July 2007</td>
</tr>
<tr>
<td>5</td>
<td>Iceland</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30 March 2008</td>
</tr>
<tr>
<td>6</td>
<td>Maldives</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14 March 2009</td>
</tr>
<tr>
<td>7</td>
<td>Monaco</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14 March 2009</td>
</tr>
<tr>
<td>8</td>
<td>Bhutan</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19 Dec. 2009</td>
</tr>
<tr>
<td>9</td>
<td>Ethiopia</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 Dec. 2013</td>
</tr>
</tbody>
</table>

A carbon neutral commitment may be the ‘low hanging fruit’ of climate change strategies because it is easy to promise but very difficult to implement, let alone achieve. The nine states in Table I have done more than just talk about carbon neutrality. Newspaper articles in my sample mention policies or strategies that six states implemented (New Zealand, Costa Rica, Norway, Maldives, Monaco, Vatican). When specific strategies did not appear in the sample, I found national plans published by the states that describe steps to achieve carbon neutrality (Iceland, Bhutan, Ethiopia).
Although Sri Lanka’s pledge was mentioned in the newspaper data and in a peer-reviewed article, I drop this state from the list of pledge adopters. The state’s pledge was only mentioned in passing in the newspaper data, and the state was described as having “no concrete strategies” for reaching the goal (Gossling 2009, 29). Upon investigation of the state’s ministry of the environment website, there is nothing to suggest that the state is still committed to or has taken any steps to reach the goal. Therefore, I dropped Sri Lanka. Because the states in Table I have not only made political promises to curtail emissions but have also devised plans and/or policies to back up those pledges, I use the terms “pledge” and “policy” interchangeably. I focus my analysis on these nine states but also document states for which a carbon neutral pledge appeared infrequently in the source material (Table II). These states may be considering the possibility of making a pledge.

Table II: States that pledged to go carbon neutral (but only in one source) and/or are mentioned as considering the possibility of the pledge, by source

<table>
<thead>
<tr>
<th>Country/ dependent state names</th>
<th>Access World News</th>
<th>UNEP Climate Neutral Network</th>
<th>Climate Action Tracker</th>
<th>Peer-reviewed journal articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sri Lanka</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Liberia</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Australia</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scotland</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Niue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>British Virgin Islands</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Fuzzy set qualitative comparative analysis (fsQCA)**

Newspaper accounts revealed that New Zealand made the first national carbon neutrality pledge and that since then, eight other states have made the same pledge. In this second stage of research, I identify attributes common to these nine states that might shed new light on the process that produced the pledges and more generally about the theories of international environmental politics outlined above. Here, I use the four hypotheses to draw out conditions under which states may have made this pledge. I use fuzzy set qualitative comparative analysis (fsQCA) to investigate the necessary conditions for a state to make a pledge (Ragin 2008). This analysis is necessary because the newspaper data cannot reveal common dynamics among pledge states. Although nine states made the pledge, I had to drop the cases of Monaco, Vatican City, and Bhutan due to missing data. To determine whether there are common dynamics among the pledge states, I had to compare pledge states to non-pledge states. In other words, I had to create a comparison group of “non-adopters.” To create this sample, I began with a list of 195 independent states from the U.S. Department of State (2013). I removed the 6 states that made carbon neutral pledges and the 13 states or self-governing regions that are considering a pledge and that were included on the list. This yielded a sample size of 176 states. From this revised list, I used Stata (StataCorp 2013) to randomly select 15 states, but I dropped one case (Equatorial Guinea) due to missing data. The list of non-adopters can be found in Table III. I compare these 14 “non-adopters” to the 6 adopters, making my sample size for fsQCA 20 cases.
Table III: Randomly selected group of states that have not made carbon neutral pledges (N=14)

<table>
<thead>
<tr>
<th>Mauritius</th>
<th>Iran</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>Yemen</td>
</tr>
<tr>
<td>Senegal</td>
<td>Cambodia</td>
</tr>
<tr>
<td>Thailand</td>
<td>Armenia</td>
</tr>
<tr>
<td>Tonga</td>
<td>Kuwait</td>
</tr>
<tr>
<td>Gabon</td>
<td>Tunisia</td>
</tr>
<tr>
<td>Bahrain</td>
<td>India</td>
</tr>
</tbody>
</table>

I compare four causally relevant conditions (Ragin 2009) across pledge and non-pledge states. All data were collected in 2005, just prior to when states first made pledges.

1) *Energy production (energy)*: This is a measure of states’ energy production in kilotons (kt) of oil equivalent. This measures states’ total production of petroleum, natural gas, solid fuels, combustible renewables, waste, and primary electricity (World Bank 2014). The Maldives, Mauritius, and Tonga displayed “…” on the World Bank’s website. I crosschecked these states’ energy production levels with data from the CIA World Factbook (2014). Each of these 3 states was listed as having 0 crude production, so I made these states’ values for this variable 0.

2) *Travel and tourism (travel)*: The next indicator is a measure of the total contribution of travel and tourism to a state’s GDP. The figures are expressed in the percentage of the share. Data come from the World Travel and Tourism Council (2013).

3) *Government effectiveness (effective)*: This indicator captures “perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies”
Scores range from -2.5 (poor governance) to 2.5 (effective governance).

4) International environmental NGOs (organizations): Next, I measure the degree to which international environmental organizations are present in the country. To do this, I count how many offices of the following global organizations exist in each state: 1) The World Wildlife Fund (2012), 2) The Nature Conservancy (2014), 3) Greenpeace (2014), 4) UNEP (2003), 5) Conservation International (2014), and 6) whether the state is a global member of the International Council for Local Environmental Initiatives (ICLEI 2014). I use data from these organizations because they represent some of the largest and most active global environmental NGOs. If these organizations are located in the pledge states, it is likely because they consider the states to be places where they can achieve their missions. Thus, the presence of international NGOs in a state is used here as a measure of the NGOs’ strength in policymaking processes.

I include one additional variable. Although the objective of fsQCA is to compose the most parsimonious solution, it is reasonable to use 4-7 conditions for a dataset of 10-40 cases (Berg-Schlosser and De Meur 2009, 28). I include a measure of scale, which though not directly drawn from the above-cited literature, may influence whether states take steps to sharply curb emissions. I account for scale with an indicator of total population (population). I calibrate all of these interval variables into three-value fuzzy sets; see the Appendix for a description of the calibration process. The outcome variable is dichotomous, for which 1= made a carbon neutral pledge by March 1 2014, 0= has not made a carbon neutral pledge.
An explanation of the process used to perform the fuzzy-set qualitative comparative analysis can be found in the methodological appendix.

The results from the fsQCA do not yield highly robust results. However, they do show that the following conditions are present in carbon neutral pledging nations: effective governance, many international environmental NGOs, and small population size.

Discussion

Many states have not responded to climate change but a small and growing number of states have chosen a different path. Nine states have not only made political pledges to become carbon neutral but have also established policies or national plans to reach that ambitious goal. In this research, I documented the emergence and spread of the pledge and then examined the common factors in these states that may have caused them to adopt the pledge.

As world society theorists would expect, carbon neutral pledges emerged and then spilled over into other places. After New Zealand made a pledge, eight other states mimicked New Zealand by making the same commitment. However, world society scholars claim that the guidelines for states’ behavior are created at a global, not national, level. As Frank, Hironaka, and Schofer (2000, 100) put it, “rule-like definitions establishing what the nation-state is, what it can do, and how it can relate to other entities are organized and established globally.” This means that theorists would expect the guidelines for something like a national carbon neutrality pledge to be created first by an international institution, for example, before states made pledges.
In another study, Gossling (2009) found that states started making carbon neutral pledges at the United Nation’s Second International Conference on Climate Change and Tourism (1-3 October 2007), (UNWTO 2007). In years when there are international conferences, states are more likely to sign treaties on that issue (Dobbin, Simmons, and Garrett 2007). If states did start making pledges at this conference, it would support the idea that rules for nation-states’ actions are written at the global level. However, the data in Table I show that four states made pledges before this conference took place. States made pledges, the pledge then became a recommended policy idea at the UN conference in October 2007, and then more states made the pledge. It may be that the prospect of face-to-face interactions at international conferences precipitates pledge making, as may have been the case in the most recent (2015) global summit on climate change.

Although the findings from this research do support the idea of policy diffusion, as theorized by world society scholars, it is important to note that states made carbon neutral pledges over a brief period of time. As the data in Table I show, these nine states made commitments over a period of only about seven years. This rapid succession of commitments does not take into consideration the issue of lag time, or that global policy diffusion may take decades (Meyer, et al. 1997; Frank, Hironaka, and Schofer 2000).

The findings from the content analysis of newspaper articles show that New Zealand made the first carbon neutral pledge. Although some innovative norms have emerged in the global South (Sikkink 2011), the same cannot be said of carbon neutral pledges. Although New Zealand was once peripheral to the world economy (Van Rossem 1996), more recent work assigns New Zealand to the core (Clark and Beckfield 2009).
There was an expectation that carbon neutral pledges would emerge and spread in one geographical region before moving elsewhere. After New Zealand, states in Europe, Latin America, Southeast Asia, and Africa followed (Table I). Thus, there appears to be no policy diffusion across contiguous polities. However, if we consider the data in Tables I and II (states considering the pledge), a different conclusion is possible. States with pledges and states considering pledges cluster in two regions: Europe and Southeast Asia/the Pacific. The former group includes: Norway, Vatican City, Iceland, Monaco, Denmark, Portugal, Sweden, and Scotland. The latter includes: Sri Lanka, Bhutan, Maldives, Papua New Guinea, Australia, New Zealand, and Niue. States in these two regions comprise 68 percent (15/22) of states with pledges and states considering pledges. If the 13 states that are considering the pledge end up adopting it, there will be considerable support for an explanation that emphasizes the regional dynamics of norm diffusion. Similarly, in their research on why states declare and implement mitigation policies, Tubi et al. (2012) found that membership in the EU was strongly associated with states’ pursuits of mitigation.

Why there would be a regional component to policy diffusion has received considerable attention, but debates remain (Dobbin, Simmons, and Garrett 2007). The regional diffusion of policies might be due to structural reasons. For example, Beckfield (2010) finds that there has been a rapid growth in the creation of regional organizations over the past two centuries. It may be that these regionally specific organizations help transfer policy ideas and resources across neighboring states. In contrast, policy diffusion across states in a regional context might represent a mimetic institutional isomorphic change that is comparable to the ways in which organizations look to fellow
organizations during moments of ambiguity. This is a cultural explanation for change. According to DiMaggio and Powell (1983, 151), “Uncertainty is also a powerful force that encourages imitation… when goals are ambiguous, or when the environment creates symbolic uncertainty, organizations may model themselves on other organizations.” Because an internationally binding treaty to reduce emissions has not been reached, it is unclear what responsibility individual states bear in terms of mitigation. When a state looks to its neighbor and replicates that neighbor’s policy in its own legislative district, the state has reduced that ambiguity.

Sikkink’s (2011) work illustrates why actions might spread across states in a region, before moving elsewhere. In her work on the spread of human rights prosecutions for heads of state reveal that both structural and cultural reasons explain regional this diffusion. As with Sikkink’s (2011) work, it may be that attitudes about climate change and carbon neutrality in particular had already been shifting by 2007 because of earlier historical events. The combination of the events, the attitudes caused by those events, and organizations that exist to tackle climate change might help explain the spread of carbon neutrality pledges.

In contrast to the ideas outlined above, for world systems theorists, only core states should be willing and able to adopt carbon neutral pledges since states’ climate policies reflect their structural positions in the capitalist global economy (Roberts and Parks 2007). Using Clark and Beckfield’s (2009) trade data to distinguish core, semi-peripheral, and peripheral states, pledge states are not more core-like than non-adopters (Table IV). Pledge states belong to the core and the periphery. It is possible that the pledge is a symbolic action that states can commit to and work toward, but which they
hope will spur other, more high-emitting states, to also curtail emissions. It is unlikely that pledge states consider their national policies a sufficient response to global climate change; however, the failures of large emitters to curb emissions may inspire states with fewer emissions to do something in the meantime.

Table IV: Adopters vs. Non-adopters by World System Position (Clark and Beckfield 2009)

<table>
<thead>
<tr>
<th>Adopters</th>
<th>Non-adopters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>Core</td>
</tr>
<tr>
<td>Norway, New Zealand</td>
<td>Iran, India, Thailand</td>
</tr>
<tr>
<td>Semi-periphery</td>
<td>Semi-periphery</td>
</tr>
<tr>
<td>Costa Rica, Ethiopia, Iceland, Maldives</td>
<td>Kuwait, Nigeria, Tunisia</td>
</tr>
<tr>
<td>Periphery</td>
<td>Periphery</td>
</tr>
<tr>
<td>Costa Rica, Ethiopia, Iceland, Maldives</td>
<td>Cambodia, Gabon, Senegal, Yemen, Mauritius, Bahrain</td>
</tr>
</tbody>
</table>

The above findings speak to the emergence and spread of carbon neutral pledges. Next, I describe the findings from fsQCA to explain what makes pledge states’ political environments conducive to pledge making. To do this, I return to the hypotheses. I find no support for the first hypothesis, which posits that states more dependent upon natural resource extraction will be less inclined to make pledges. The energy condition drops out of the analyses. However, additional analyses (not shown), show that adopters extract, on average, about twice as much oil equivalent as do non-adopters. While this finding is unexpected, it is likely due to the fact that Norway made a pledge. Without Norway, pledge adopters produce less than one-tenth the amount of oil produced by non-adopters.

---

I only describe the difference in means here to illustrate how unexpected this non-finding is. I did not use a difference in means tests approach because it would not have allowed me to look at the combinations of causally relevant factors or the degree of membership in a group. These are the benefits of using fsQCA.
Norway plans to reach carbon neutrality largely through buying carbon credits (Norwegian Government 2008). I also find no support for the second hypothesis, or that states more dependent upon travel and tourism for their GDPs would be more likely to make pledges. Again, in additional analyses (not shown) I found that the adopters depend on travel and tourism, on average, about twice as much as the non-adopters; however, the difference is not big enough to create a necessary condition under which the pledge is made.

The data provide the most support for the third and fourth hypotheses, which posit that pledge states have better governance than non-pledge states, and that pledge states have a greater presence of international environmental NGOs than non-pledge states. Also the indicator of scale, or total population, increases the degree of consistency in the analyses, or the degree to which multiple cases share the same combination of conditions. I argue that states characterized by these three conditions (small population, good governance, and abundant presence of global environmental NGOs) facilitate the generous provision of public goods, such as carbon neutral pledges. These results are similar in nature to those of Evans and Rauch (1999). They found that states with certain structures, or those characterized by meritocratic recruitment and predictable career rewards, promote economic growth more than other states. The common element in the two analyses is that states with certain dynamics perform better on the provision of public goods, albeit very different kinds of public goods (climate mitigation actions vs. economic growth).

States with smaller populations are more inclined to adopt the pledge. We know that smaller groups have an easier time reaching collective decisions (Olson 1965). It is
also possible for smaller groups in a specific geographical area to be more similar (Hall 2006), which can lead to the development of norms of reciprocity that underpin good governance (Ostrom 2009). We should recall that some of the pledge states with the smallest population sizes (Monaco and Vatican City) were dropped because of missing data. With these states, it is possible that the consistency values for fsQCA could have been even higher. Overall, pledge states have smaller populations, effective governance, and a greater abundance of global environmental NGOs. It is theorized that these conditions matter because they encourage states to provide generous public goods for their people.

However, the finding about size creates more questions than it answers. What remains unclear is exactly how size matters in terms of getting to ‘yes’ on a carbon neural pledge commitment. Relatedly, it is also unclear whether it is population size, per se, that facilitates pledge making or the small coalition within a small state that facilitates pledge making. As Ott (2000) says, small states are characterized by “small scale social structures,” in which people already know each other and have worked together before on other projects. Detailed case study work on the coalition that formed in Costa Rica should help resolve some of these questions about population size and coalition size.

Although the degree of class inequality in a state was not measured directly in the QCA, there is still a way to assess this dimension in states. To assess the degree to which pledge states represent more unitary societies (Hall 2006: 49), I calculated the means of the Gini coefficients for pledge states versus non-pledge states. The Gini index measures the degree of inequality in a state, with scores closer to 0 indicating greater equality and scores closer to 100 indicating higher levels of inequality. I used the Standardized World
Income Inequality Database (SWIID), version 5, a database that draws upon nine datasets to compile the best available source for making cross-national economic comparisons.

This database has the 2005 estimate of the Gini index of inequality in equivalized household disposable (post-tax) income for every state in the sample except Tonga, Bahrain, and Kuwait (Solt 2014). I used the first imputation (of 100) to calculate the means among the adopters and the non-adopters. The average Gini coefficient for pledge states (Norway, New Zealand, Costa Rica, Maldives, Ethiopia, and Iceland) is .3338. The average for the 11 non-pledge states with available data is .4149. The difference in these two coefficients lends considerable support to the idea that relatively egalitarian societies are more inclined to make carbon neutral pledges than are societies with vast income inequalities. The difference in the Gini index values for adopters and non-adopters is greater for the post-tax Gini values than the pre-tax values. This indicates that pledge states are more involved in redistributing money after taxes than are non-pledge states, and thus lends greater support to the unitary society thesis. Pledge states do more redistributing because they pay attention to the circumstances of marginal people in the society. This further implies that pledge states care about public welfare and public goods.

Mahoney (2010) and Norgaard’s (2011) work on the homogeneous class structures in Costa Rica and Norway, respectively, add some substance to this difference in means calculation and may help explain pledge making in these states. The egalitarian class structure in Costa Rica dates back to the 1820s when, as a newly independent state, the government turned communal lands into private lands (Mahoney 2010). This meant that small farmers produced most of the state’s coffee and a large landed elite never
developed. This historical process will be discussed in great detail in the following chapter. For Norway, the development of the welfare state between 1945-1970 created widespread equality in terms of class, education, healthcare, and gender (Norgaard 2011). Closer examination of the other pledge states may reveal similar historical processes by which egalitarian class structures were formed.

Effective governance is another necessary condition. This indicator measures perceptions about the quality of: public services, civil service and its independence from political pressures, the state’s policy formation and implementation, and the credibility of government to fulfill policies (World Bank 2014). In other words, this measures the degree to which government can promise and provide public goods independent of interest groups. Governments that score highly on this indicator are more willing to invest in activities that benefit people but that require significant sacrifices of time and money. Democracy is associated with states’ political commitments to curtail emissions (Battig and Bernauer, 2009; Tubi, Fischhendler, and Feitelson, 2012). However, this finding also raises important questions about how good governance comes to be and how it matters in terms of pledge making.

Finally, pledge states have a greater presence of global environmental NGOs than do states without such pledges. The main question is how do pledge nations come to have more NGOs in the first place. Stable places like New Zealand, Norway, Costa Rica, and Iceland are attractive places for international environmental NGOs to work because politicians in these places give NGO advocates for public goods a hearing in policy formulation processes (Lewis 2003). Furthermore these organizations depend on donor bases that largely come from the U.S. Donors would likely be displeased if their money
funded work in authoritarian states. Once NGOs end up in stable democratic places, they likely find the political environments there to be conducive to meeting their goals, and thus put pressure on government to make a carbon neutral pledge. The Yale Environmental Performance Index (2010) has found that states with high governance scores score highly on the measures of environmental outcomes. This underscores the relationship between governance and NGO presence.

The findings from QCA described above indicate that states with small populations, more egalitarian class structures, more effective governance, and a greater presence of environmental INGOs are more inclined to adopt carbon neutral pledges. However, the QCA findings do not explain how any of these forces matter in regards to the adoption of carbon neutral pledges. Therefore, it is necessary to do a case study to explore how these forces came to be present in one particular nation and how they mattered in terms of the carbon neutral pledge. The following two chapters explore the particular case of Costa Rica, one of the carbon neutral pledging nations. The next chapter provides a historical explanation for how Costa Rica came to fit the institutional profile of a country that would be inclined to adopt the pledge. Then, the chapter after that explores the process by which Costa Rican adopted its carbon neutral pledge in 2007.
Chapter 4: Historical chapter on Costa Rica

So far, the chapters of this dissertation have introduced the concept of carbon neutrality, provided theoretical approaches to studying carbon neutral pledges at micro-, meso-, and macro-scales, and analyzed the first stage of empirical research. The empirical research from the previous chapter drew upon newspaper data to document which countries made pledges and the order in they made them, and national-level statistics to compare political, economic, and social conditions in countries with carbon neutral pledges to those in a randomly selected group without such pledges. Pledge nations, compared to non-pledge nations, have smaller populations, better governance scores on world indices, more egalitarian class structures, and more global environmental NGOs.

The findings from the fsQCA illuminate the institutional profile of countries that are likely to make carbon neutrality pledges. In this chapter, I move the scale of analysis down to one country that made this pledge (Costa Rica) to explain how it fits this institutional profile. In other words, this chapter seeks to explain how Costa Rica came to be small, have an egalitarian class structure, have good governance, and have many NGOs, and to explain how the historical development of these factors are linked to the adoption of the carbon neutral pledge. I draw upon archival data and secondary sources to do this. Then, I draw upon some interview data to show how people in Costa Rica talk about these four factors of Costa Rican society. A list of interviewees and their institutional affiliations is included below in Table V. In the following chapter, I will draw predominantly upon the interview data to describe and explain the step-by-step process that led to the public commitment of the carbon neutrality pledge.
Table V: List of respondents and their affiliations

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Sector</th>
<th>Specific affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>8/1/2013</td>
<td>Industry</td>
<td>A director of sustainability of Dole (large, private, transnational banana company). He is based in Koln, Germany. (Via Skype)</td>
</tr>
<tr>
<td>#2 and #10(^{11})</td>
<td>8/22/2013 &amp; 7/10/2015</td>
<td>Academia and certifier</td>
<td>Director of Carbon Neutrality Program at Earth University. Involved with efforts to verify companies that have become carbon neutral.</td>
</tr>
<tr>
<td>#3</td>
<td>8/21/2013</td>
<td>Government</td>
<td>Employee at the Climate Change Center, the department of the Ministry of the Environment that focuses on climate change and that receives funding from the German government.</td>
</tr>
<tr>
<td>#4</td>
<td>8/27/2013</td>
<td>Academia</td>
<td>Two academics in the Department of Environment, Peace, and Security at the University for Peace.</td>
</tr>
<tr>
<td>#5</td>
<td>8/28/2013</td>
<td>Academia</td>
<td>Latin American Professor on Environmental Decisions for Global Change at The Tropical Agricultural Research and Higher Education Center (CATIE).</td>
</tr>
<tr>
<td>#6 and #20</td>
<td>8/26/2013 &amp; 7/6/2015</td>
<td>Government, Science</td>
<td>Employee at the Climate Change Center, the department of the Ministry of the Environment that focuses on climate change and that receives funding from the German government. Also, part of the team that wrote the Costa Rican national carbon neutrality plan. Has a PhD in Chemistry from the U.S.</td>
</tr>
<tr>
<td>#7</td>
<td>7/21/2015</td>
<td>Industry</td>
<td>Employee of Britt Café, a private, Costa Rican coffee company that sells coffee in 20 countries.</td>
</tr>
<tr>
<td>#8</td>
<td>7/14/2015</td>
<td>Bilateral aid</td>
<td>An employee of AECID (Spanish Agency for International Development Cooperation).</td>
</tr>
<tr>
<td>#9</td>
<td>7/9/2015</td>
<td>Academia</td>
<td>University of Costa Rica faculty member, Department of Government and Public Policy. Author of part of Oscar Arias’s biography.</td>
</tr>
<tr>
<td>#11</td>
<td>7/8/2015</td>
<td>Academia, government</td>
<td>Currently a professor in the Department of Economics at the University of Costa Rica. Had previously taught in the Department of Public Administration. Also, part of the team that wrote the national plan on carbon neutrality. Proposed the idea of a carbon market as part of the work on the plan.</td>
</tr>
<tr>
<td>#12</td>
<td>7/13/2015</td>
<td>Science, civil society, government</td>
<td>A biologist, who was an employee of the Ministry of the Environment from 1996-2007. Helped found, and currently works for, a civil society group called the Foundation of the Ecological Flag.</td>
</tr>
<tr>
<td>#13</td>
<td>7/15/2015</td>
<td>Certifying agency</td>
<td>An employee who works in the unit of the verification of greenhouse gases at INTECO, the Costa Rican Institute of Technical Norms.</td>
</tr>
<tr>
<td>#14</td>
<td>7/21/2015</td>
<td>Industry</td>
<td>General manager of the first hotel in San Jose to become carbon neutral.</td>
</tr>
</tbody>
</table>

\(^{11}\) Respondent numbers 2 and 6 were interviewed during both research trips to Costa Rica. Both provided contact information for several other interviewees. Also, because they have both been involved in ongoing work related to carbon neutrality (certifying carbon neutral companies and writing the national strategy plan) it was important to interview them again in 2015 to learn about how the political discourse on climate change had changed or stayed the same since 2013.
First relevant causal condition: scale

This chapter first describes the four relevant causal conditions in a way that is inspired by Geist and Lambin’s (2002) distinction between “underlying” and “proximate” causes of deforestation. Underlying causes are “fundamental social processes” that influence the nature of proximate causes (Geist and Lambin 2002: 143). We begin with scale and class structure, before moving to the proximate causes of good governance and NGO presence.
Scale: total population

The indicator of scale from fsQCA measures the total population. In 2005, the year before work on “Peace with Nature” began, Costa Rica’s total population was 4,247,843 (World Bank 2015). Costa Rica’s annual population growth hovered between 2.5 and 3 percent from 1966 through 1999. Since the turn of the millennium, the country’s annual population growth has remained between 1 and 2 percent (World Bank 2015).

Scale: people are in close contact with each other

Costa Rica is a country in which people have historically concentrated in the fertile central valley. The consequence of this is that most political offices, industries, universities, and NGO offices are in the central valley. The central valley includes not only the capital of San Jose, but also the three other major cities of Costa Rica: Cartago, Heredia, and Alajuela. This means that people who are involved in elite decision making at the highest level in Costa Rica are almost always in physical proximity to each other. Of course, just being close to other decision makers doesn’t mean that decisions are made more quickly, but it does mean that decision makers usually know each other from working together on previous projects. The people who worked on carbon neutrality already knew each other because they worked together on other previous projects, and likely expected to work together on future projects. According to Ott (2000: 195), “… in small states the number of elites is much smaller, and those elites are likely to know one another very well. This creates a level of association among elite groups that is historically based, and less likely to be tainted by disagreements over distribution or other
issues.” In small states, elites are likely to already know each other and to know that they’ll have to work together again in the near future. These dynamics incline elites to work in a more cooperative fashion.

How people talk about scale

This section describes the way people talked about the issue of scale in Costa Rica. Respondent #15, a scientist, former University of Costa Rica (UCR) faculty member, and member of the National Academy of Science in both Costa Rica and the US, was the person in charge of the government-initiated “Peace with Nature” coalition that worked on carbon neutrality. When I asked him if his research was on climate change when Peace with Nature began, he said no. Most of his research is on how deafness can be passed down genetically but at the time Peace with Nature began (late 2006) he was studying bipolar disorder. But, he explained, “you have a responsibility when you know.” As he put it, Costa Rica is very different from the US in this way. In the US, you focus, you study, you work on something really specific. In Costa Rica, it’s “almost a laboratory,” where you can do different things. Plus, he said, “it’s so small that you can do things if you’re organized.” The smallness of Costa Rica makes it easy to exercise leadership and this is especially true when you have a high level of education and when you’re bilingual.

Second relevant causal condition: egalitarian class structure

This section describes the way in which Costa Rica developed an egalitarian class structure. The fsQCA analysis in the previous chapter showed that pledge states have
more egalitarian class structures (as measured by Gini coefficients) than non-pledge states. In other words, pledge states fit the model of unitary societies as described by Mann, or places with social homogeneity, (Hall 2006) better than non-pledge states. This section describes the origin of this egalitarian class structure in Costa Rica.

Class structure: pre-coffee

The coffee economy profoundly influenced class relations in Costa Rica (Paige 1997). Before explaining that however, we should first briefly consider class relations in Costa Rica’s pre-coffee economy. In the early 1800s, land was perceived to be plentiful and private land ownership was uncommon (Gudmundson 1983: 431-432, Gudmundson 1995). Gudmundson (1995: 116) explains, “Land tenure, even for the pre-coffee wealthy, was not fundamentally a system of private, exclusively held property, however. The typical cultivator made use of either common lands or unclaimed forest for shifting yearly crops of corn and beans.” In other words, all members of society (including the wealthy ones) used communal lands. This prevented the development of a large, landed elite group in society. As Gudmundson (1995:117) adds, during this period, “even the wealthy saw no need for, nor practical possibility of, denying ready access to annual planting lands.” Before the introduction of coffee, private property was very uncommon in Costa Rica and was not the means by which one became wealthy (Gudmundson 1995). Farmers grew their crops on communal land.

Class structure: the introduction of coffee and the predominance of small landholders
While the lack of private land ownership prevented the development of rigid class inequalities in the early 1800s, the introduction of coffee changed that. During the 1820s, the Costa Rican government began to divide communal land into private property to support small farmers (Mahoney 2010: 193). This process did not begin in other Latin American countries until later in the century. As a consequence of the state’s early efforts to divide lands, Costa Rica never developed large haciendas, or large, privately held parcels of lands. Costa Rica has never been a land of large estates, or “latifundios.” The division of communal land into small, privately held parcels of land led to the country’s preponderance of small landowners and small-scale coffee producers (Gudmundson 1995, Mahoney 2010). In comparison to its coffee-producing neighbors in Central America such as El Salvador and Nicaragua, smallholders control a higher percentage of land in Costa Rica and more people in the lower and middle classes in Costa Rica have historically held land (Paige 1997).

Gudmundson (1995) explains the shift to privately held parcels of land in the 1820s that could be used for coffee growing. He writes that coffee encouraged the privatization of land “by permanently investing land with past labor in a perennial crop, by increasing land values, and by concentrating family land claims within a short distance of the ‘home place,’” (Gudmundson 1995: 117). From the mid-19th century to the early 20th century, Costa Rica came to be dominated by small landholders (Gudmundson 1995, Mahoney 2010, Paige 1997). As Mahoney (2010: 194) adds, “No entrenched landed elite of any kind was featured in this economy. Nor was there ever in Costa Rica a large subservient labor force that functioned under highly coercive controls.” In a context with many small landholders and an almost complete lack of a landed elite, “… the extension
of public goods could be viewed in positive-sum terms,” since elites would help large segments of society through their reforms (Mahoney 2010: 194).

From the early 1800s through 1950, small landholders dominated Costa Rica’s coffee economy (Gudmundson 1995, Paige 1997). Compared to El Salvador, Nicaragua, and Guatemala, Costa Rica’s “small-holding farmers control a much more substantial share of coffee area and production,” and at the same time, the “estate sector is correspondingly smaller,” (Paige 1997: 63). By the mid 20th century, Costa Rica’s coffee economy featured many sub-family farms (owning very small parcels of land), a small group of subsistent family farms, a group of large estate owners, and a class of processors (Paige 1997: 60). So while there was a predominance of small holders in Costa Rica, these small holders could still be taken advantage of by the estate and integrated producers.

According to Gudmundson, during the mid to late 20th century, the percentage of people who owned land in Costa Rica began to shrink. The pressure on small landholders came from the problem of inheritance (Gudmundson 1995: 124-5). A very small percentage gave their land to one or a small number of heirs. Most either encouraged their children to migrate to other areas or they divided their parcels of land up among many heirs, leaving some heirs with little, if any, cultivatable land. As Gudmundson (1995: 119) puts it, “more and more residents either moved away or were reduced to houses with garden plots and wage laboring.” In other words, most small landholders in the central valley “were likely to experience increasing land pressure and downward mobility,” during the 20th century (Gudmundson 1995: 129). So while land ownership “was not the surest or quickest road to enrichment” in Costa Rica’s pre-coffee economy,
land ownership was essential for maintaining a middle class position by the mid to late 20th century.

Historically, Costa Rica is a country in which people have concentrated in the central valley and the cities that are part of this valley (San Jose, Heredia, Alajuela, and Cartago). During the second half of the twentieth century, Costa Rica’s urban populations began to expand. While in 1966 just over a third (36.39 percent) of the populated lived in urban areas, by 2000, nearly sixty percent (59.049) of the population lived in urban areas (World Bank 2016). The “increasing land pressure” that small landholders experienced likely contributed to the growth in urban populations (Gudmundson 1995: 129).

Although Costa Rica’s class structure was becoming more unequal by the start of the 20th century, the situation was nuanced because the entire population did not experience a rapid economic decline. First, by 1955, the country still had 14% of total coffee producing land area held by family farmers and nearly a quarter (22%) held by small employers (Paige 1997: 60). Even if small holders were starting to come under pressure in the mid 20th century (Gudmundson 1995), the data still show that Costa Rica’s coffee economy produced a relatively egalitarian class structure. Using the Standardized World Income Inequality Database (SWIID) database, the average Gini coefficient of inequality in equivalized household disposable (post-tax) income in Costa Rica in 1969 was 45.77, indicating a not quite low but certainly not high level of inequality.

---

12 As Solt (2014) explains, in the fifth version of the SWIID, “the inequality estimates and their associated uncertainty are represented by 100 separate imputations of the complete series: for any given observation, the differences across these imputations captures the uncertainty in the estimate.” To describe a country’s Gini coefficient in any one particular year, the 100 imputations were averaged together. While not perfect, this average provides the best possible estimate of inequality for that one year, while still incorporating the uncertainty in the calculations.
inequality (Solt 2014). Costa Rica certainly had a lower level of inequality compared to some of its neighbors, such as Guatemala at about the same time (54.18 in 1979) (SWIID 2014). By 2005, Costa Rica’s Gini coefficient remained at about the same level: 44.67. Just as a point of comparison, the Gini coefficient in the U.S. in 2005 was 37.37 (SWIID 2014). Second, the Costa Rican population still benefitted from social programs that grew out of the reforms of the mid-1800s. So although Costa Rica has become more unequal over time, people here still have the backing of a generous social welfare program that stayed in place over time.

Class structure: Class structure and class identities

Another important part of the story on Costa Rica’s class structure is the way in which Costa Ricans have historically identified as belonging to a particular class. For a brief discussion on class identity in Costa Rica, Gudmundson’s (1995) work is relevant. At the beginning of the growth of the coffee economy in Costa Rica, socioeconomic classes were predominantly drawn along two axes: processors/producers and landowners/wage laborers (Gudmundson 1995: 120). In other words, there was a small number of wealthy processors, some large landowners, a large group of small landholders, and a class of property-less wage laborers (who worked for the landowning processors during the months of the harvest) (Gudmundson 1995: 120). Despite these divisions, the class structure remained “inherently ambiguous” since wage laborers often had family members in the wealthier groups (Gudmundson 1995: 128). This made it contrary to the best interests of the property-less workers to “articulate an ideology of class antagonism and exploitation of their own.” As he adds, “Rather than low wages,
poor conditions, and short seasons, the workplace conversation of impoverished smallholders and laborers likely echoed the local propertied classes’ trinity of concerns: weather and yields, world coffee prices, and the justice of the prices set by local processors. To discuss other topics was to identify oneself as not part of that imagined “nation” of smallholding coffee producers, as having given up any illusion of standing in village society,” (Gudmundson 1995: 128). In other words, because many poor residents of the central valley had family in the upper echelons of society, to form a type of class consciousness would have been against some of their interests. Although there were class differences, these differences were not paired with an articulation of difference.

Class structure: elite formation and democracy

Although the myth of Costa Rica as a rural, egalitarian paradise is exaggerated (Paige 1997), there is an important feature of Costa Rica’s elite that is worth pointing out. The agrarian elite is weaker in Costa Rica than it is in other countries, both in terms of the land it owns and the coffee it produces (Paige 1997: 67). This means that the class differences between elites and non-elites are not as severe in Costa Rica as they are elsewhere. As Paige (1997: 70) puts it, “Class polarization was considerably more acute in El Salvador and Guatemala than it was in Costa Rica.”

According to Paige (1997), the way in which a coffee elite developed in Costa Rica is directly related to its development into a stable democratic country. Specifically, he argues that coffee elites in Central America have two “fractions,” the agrarian fraction and the agro-industrial fraction. The latter gains its power via land ownership and the growing of coffee, while the former derives power from the mechanization of processing
coffee and exporting it. By the middle of the 20th century in Costa Rica, the agrarian fraction of the coffee elite was weak, while the agro-industrial fraction was relatively strong (Paige 1997: 87). In other words, Costa Rica’s elite is an elite of processors, not of producers. According to Paige (1997: 88) the likelihood that a country will develop a stable democratic government depends on the distribution of power in the agrarian vs. agro-industrial fractions and the data show that, the more power that is vested in the agrarian fraction, the “greater the likelihood of authoritarian institutions to discipline and control the mass of hand labor that is the inescapable condition of estate-based coffee production,” (Paige 1997: 88). Because Costa Rica’s agrarian fraction was weak, this makes it more likely for the state to maintain a stable democracy. Drawing upon the work of Barrington Moore, Paige (1997: 88) argues that the “presence of a landed elite dependent on labor-repressive agriculture is an insurmountable obstacle to democratic institutions.” Because Costa Rica’s coffee elite got its power from coffee processing (Paige 1997) and the commercial aspects of coffee (Mahoney 2010: 194) rather than land ownership, Costa Rica was fertile ground for the establishment of stable democracy during the 20th century.

How people talk about egalitarian class structure

The section above describes the introduction of coffee into the Costa Rican economy and how that introduction led to the development of a large class of small landholders. This section also showed how the development of this large class of small landholders affects class identities in Costa Rica. The final section explained how the
coffee economy created an elite class that is not drastically different from the rest of the population, in terms of socioeconomic position.

To add an interpretive component to the section above on the historical dimension of socioeconomic class in Costa Rica, this section includes some impressions that people had about the class structure. In explaining why Costa Rica made the carbon neutrality pledge, Respondent #10 explained that Costa Rica’s democracy and the population’s high level of education made Costa Rica more “open” to something like a carbon neutrality pledge. He also drew a connection between democracy and an egalitarian class structure. He said that some of our political figures are from wealthy, elite families but some come from simple backgrounds. In this country, he said, it hasn’t been that the political leaders are always the wealthy elites. This is not the way it is in the rest of Central America; there, the powerful are also the rich. To elaborate how Costa Rica is different than the rest of Central America, he gave the example of current President Luis Guillermo Solis. As he put it, he comes from a simple background and he is an academic, a historian. As he put it, the ability of non-elites to become President in Costa Rica is “a great value of our democracy” (“un gran valor por nuestra democracia”).

The findings above illuminate the historical reasons for Costa Rica’s small size and the creation of its relatively egalitarian class structure. These two social processes are ultimate, or “underlying” causes that lead states to make carbon neutral pledges (Geist and Lambin 2002). The following two relevant causal conditions, governance and NGO density, depend on the two ultimate causes described above. In other words, small scale and egalitarian class structure lead to the development of the other two causal conditions:
good governance and NGO density. The next section provides a narrative description of how Costa Rica came to have good governance.

Third relevant causal condition: governance

Governance: isolation both before and after independence

One defining feature of Costa Rica’s history is that the Spanish largely ignored this part of the colonial empire. Costa Rica was isolated and the “poorest” of the Spanish colonies (Evans 1999: 5) for several reasons. First, the mountainous terrain made development there difficult (Evans 1999). Second, Costa Rica was not home to an organized, complex indigenous society (such as the Incas or the Aztecs). Pre-colonial societies with complex systems of social organization were preferable to the Spanish because they produced surpluses and could easily be taken over (Mahoney 2010). Places like Costa Rica, with difficult terrain and scattered indigenous groups, were too much of a logistical challenge to conquer. Moreover, they weren’t really worth the trouble. The third reason is that Costa Rica lacked valuable resources such as precious minerals and mines. The Spanish were more interested in inserting themselves in places, such as Peru or Mexico, where they could exploit these resources (Mahoney 2010: 50-52, 98-99).

While Costa Rica was isolated during the colonial period, this isolation continued even after independence. Costa Rica, along with El Salvador, Honduras, Guatemala, and Nicaragua, became an independent state on September 15, 1821. In 1823, these nations created the Federation of Central America which began to dissolve by 1838 (US Dept. of State nd). During these two decades, Costa Rica was “the most isolated and unappealing part” of the Federation (Mahoney 2010: 193). This isolation resulted from the reasons
mentioned above, namely the lack of valuable resources and indigenous populations, combined with the density of forests. This isolation was a benefit because, “while all of the other provinces quickly became engulfed in warfare and political chaos, Costa Rica escaped such devastation and made tentative economic strides forward,” (Mahoney 2010: 193). Costa Rica remained “neutral in federation matters” and did not get involved in the internecine wars that consumed its neighbors (Mahoney 2010: 195, 336). The benefits of Costa Rica’s isolation during the years of the Federation persisted once the Federation collapsed. Once the Federation dissolved, the country’s “autonomy enabled it to avoid the conservative resurgence that bolstered colonial heritages and blocked liberal progress among all the other Central American countries,” (Mahoney 2010: 193). Costa Rica’s isolation both during and after the colonial period allowed the state to make changes to promote economic growth, including the privatization of land (Mahoney 2010: 193).

The perception of Costa Rica as being isolated continued long after its colonial and immediately post-colonial days. For example, according to Bull (1999: 962), as “expressed in the Costa Rican doctrine during the Monge administration (1982-1986),” the government said the following about Costa Rica’s position in relation to that of its neighbors: “Costa Rica is not a part of the Central American problem, but Central America is part of Costa Rica’s problem.”

Governance: lack of extractive resource-based economy

While Costa Rica’s lack of minerals led the Spanish to avoid this area of Central America, the country’s lack of valuable resources has had effects on governance that extend well beyond the colonial era. The Costa Rican economy is not, and really has
never been, based on the extraction of natural resources. This means that the interests of most elites are not economically tied to natural resource extraction (Broad and Cavanaugh 2015: 424). While there have been some recent political battles over gold mining in 2007-2008 (which will be discussed in chapter six to the extent that they relate to the carbon neutrality pledge), these have mostly been shut down due to resistance from civil society.

Before getting into specific examples of how the lack of a resource- based economy facilitates good governance, an explanation of the complex of the Costa Rican economy would be helpful. Historically, Costa Rica’s economy has been based on the production of agricultural goods. In chronological order, the main drivers have been coffee, bananas, beef, non-traditional exports, and tourism. When it was discovered that coffee could grow on the steep terrain surrounding the central valley in the 1830s, coffee quickly became the primary driver of the economy (Evans 1999, Mahoney 2010, Paige 1997). By the end of the 19th century, bananas became a major export. In 1871, Minor Keith traveled from the US to Costa Rica with the goal of establishing a railroad from Puerto Limón, a port on the Atlantic coast of the country, to San José, in the central valley. As he established each section of the railroad from Puerto Limón, he planted bananas on the side of the tracks (Echeverri-Gent 1992: 277-278). In 1899, Keith joined his company (Tropical Trading and Transport Co.) with Andrew Preston’s banana company in the West Indies. This merger created the United Fruit Company (UFCO). So by the end of the 19th century and into the early 20th century, bananas came to be a primary export of Costa Rica. The beef export economy grew in the 1950s and fueled much of the deforestation in the country until the mid-1980s (Augelli 1989, Daniels
The beef economy in Costa Rica only slowed once the US’s demand for beef decreased in the mid-1980s (Daniels 2010).

By the late 20\textsuperscript{th} century, in the midst of the debt crisis, the structure of the economy shifted as Costa Rica was forced to grow new crops to satisfy international financial institutions. Costa Rica relied heavily on loans from international institutions in the late 1970s and early 1980s; by 1983, the country had “one of the largest per capita debts in the world” (Wilson 1994: 153). These loans came with stipulations; specifically, the IMF demanded that Costa Rica begin to grow “more nontraditional crops like pineapples, flowers, and ornamental plants,” (Evans 1999: 48-49). The reason was that these goods “could be sold in an ever-growing world market to generate capital flow to help satisfy creditors. By the late 1980s the nontraditional crops accounted for 30 percent of all Costa Rican agro-exports,” (Evans 1999: 49). In 1983, an alliance in Costa Rica formed to push even further the early efforts to grow nontraditional exports. The alliance became known as CINDE (Coalicion Costarricense de Iniciativas para el Desarollo), or the Costa Rican coalition of initiatives for development, and was funded by USAID (Clark 1995: 182-183). Under the leadership of CINDE, nontraditional exports saw major growth; “Between 1983 and 1992, their value soared from $90 million to $781 million,” (Clark 1995: 183). Nontraditional exports at this time included textiles, fresh and frozen fish, shrimp, flowers, ornamental plants, foliage, and fresh pineapple (Clark 1995: 183). These changes in the complex of the economy led the state to start importing food. By the late 20\textsuperscript{th} century, the Costa Rican economy began to see a growth in the tourism industry. As will be discussed later in this chapter, especially tourism with an “eco” aspect to it took off after Oscar Arias’s Nobel Peace Prize in 1987. By the early
1990s, the industry of tourism became the largest contributor to the country’s GDP (Daniels 2010, LePree 2008-2009). The Nobel Peace Prize win generated growth in the tourism industry in Costa Rica. This is an example of the way in which positive international exposure creates synergies, something that was also present with the carbon neutrality pledge.

The above section details the structure of the Costa Rican economy. The lack of an extractive resource based economy means that political elites can make decisions free from the influence of these industries (Fisher 2004). There is reason to believe that the lack of an extractive resource-based economy in Costa Rica likely facilitated the government’s work in the 1990s to foster the generation of electricity from renewable sources. In 1990, Costa Rica passed law 7200, which allows the government-run Costa Rican Institute of Electricity (ICE) to purchase limited quantities of energy from private companies who are exploring the potential of getting energy from hydraulic and other non-conventional sources (Poder Legislativo 1990: 1). These companies must have 35% of the share belong to Costa Ricans. With this law, the government was only able to purchase “up to 15 percent of the total national energy supply” from these small-scale, renewable energy producers (Figueres Olsen 1996: 198). This law was amended in 1995. Law 7508 of May 9, 1995 was for the rational use of energy and the alternative use of alternative sources of energy. This law enables private enterprises to produce energy from renewable sources (geothermal, hydro, and wind, or other source) in small quantities (50kW or less) (Poder Legislativo 1990: 5). However, the law increased the amount of renewable energy that the ICE (Costa Rican Institute of Electricity) could buy from small, scale private generators from 15 to 30 percent (Figueres Olsen 1996: 198).
According to Rojas (2004: 298), “Law No. 7200 and its reform stimulate the participation of private generators and usage of renewables.” By 1996, 72 percent of the country’s power came from hydroelectric sources, but the government was looking for ways to expand the capacity of energy that could be generated from other sources, such as wind, solar, geothermal, and biomass because of “extended dry spells” (Figueres Olsen 1996: 197). Figueres Olsen (1996) explained this in a piece on the state of affairs of sustainability in Costa Rica, which includes a section on what the country is doing to respond to the problem of climate change. In it, Figueres Olsen (1996: 191-192) claims, “Under this administration we have ratified the United Nations Framework Convention on Climate Change (FCCC), have become the first Central American country to complete an inventory of our sources and sinks for greenhouse gases, and have set an ambitious goal of moving away from fossil fuel and toward almost complete dependence on renewable energy sources for electricity generation by the end of the century. Our new "Rational Use of Energy" law encourages reductions in greenhouse gas emissions.” So these efforts in the mid-1990s to reduce the use of fossil fuels was prompted by concerns about climate change.

Relatedly, according to Holland (2015), in 2002, “Costa Rica became the first country in the Western Hemisphere to enact a restrictive ban on new open pit mining projects.” The president at the time, Abel Pacheco, not only stopped the development of new projects but also forced operations to stop at existing mines. He is reported to have said, “We have many reasons for rescinding these contracts, and if they sue us for compensation, it will be cheaper than paying for the loss of the country and the improvement of its environment” (Holland 2015). Again, Holland (2015) writes that at
the time, research showing the damaging environmental effects of mining was becoming more abundant, as well as the ways in which mining could damage the tourism industry. In terms of economic returns, the tourism industry far surpasses the mining industry in Costa Rica.

Again, in the case of Costa Rica political elites are not tied to specific interest groups in ways that they tend to be in countries whose economies are based more on natural resource extraction (Fisher 2004). Rather than being strongly controlled by the industries to which they are tied, the opposite seems to be the case in Costa Rica. In Costa Rica, political elites can exert a lot of control over specific industries to get those industries to change their practices and act in accordance with elites’ preferences. For example, in 1989 the Catholic Church of Limon denounced the harmful environmental and social effects that the banana industry had caused in the country. In October 1992, following the Rio Earth Summit in June of that year and a forum held with stakeholders from civil society, industry, and government, an inter-agency banana coalition was formed to create “best practices” for the industry. The commission trained someone to audit every banana plantation in Costa Rica once per year and to gather information on each plantation’s wastes (“gastos”), including carbon emissions. This practice continues to this day.

This section highlights the following. The lack of a resource-based economy frees up political elites from being tied to these industries. This allowed government to push for things like renewable energy as early as the early 1990s. This has also allowed government to work with other sectors (i.e., NGOs and the church) to regulate the operations of particular industries.
Governance: coffee economy and progressive social reforms

The coffee economy contributed significantly to the development of good governance in society. As described in the previous section on class, the government facilitated the creation of private property in the 1820s. Throughout the mid-19th and early 20th centuries, Costa Rica remained a country of small landholders (Gudmundson 1995: 119). Although social inequality certainly existed following the growth of the coffee economy (Gudmundson 1983), Costa Rica is unique because of the high percentage of small landholders and the extent of land that was owned by small landholders (Gudmundson 1995). This was discussed in the earlier section on the egalitarian class structure. However, for this section, the division of land and the fact that small landholders produced a large percentage of coffee throughout the second half of the 19th and early 20th centuries matters for governance because it affected how elites provided public goods.

The predominance of small landholders matters for good governance because the lack of both a large landed elite and a subservient labor class meant that, “the extension of public goods could be viewed in positive-sum terms,” (Mahoney 2010: 194). Political elites distributed social services widely and generously (starting in the mid-19th century) because they were providing goods to people who were similar to them and because the goods provided were expected to improve the lives of many, or most people, not just a small part of society. Elites supported state-led social reforms that “served broad sections of society,” (Mahoney 2010: 194). By the middle of the 19th century, “the country became the first in the region to establish a commercial bank and a land registry,”
(Mahoney 2010: 193). Furthermore, elites led efforts in the late 19th century to reform education, provide “access to credit for small farmers, infrastructure projects, and systems of justice that applied the rule of law broadly,” (Mahoney 2010: 194).

In the 1880s, the government established a system to provide free public schooling for the population (Peeler 1991: 88). As Peeler (1991: 88-89) adds, “In most other Latin American countries during this period such a commitment would have been seen as nonsensical if not completely wrongheaded.” Costa Rican elites, however, saw education as the means to improve literacy and thus makes sure “that the “better sort” of people would continue to lead the country,” (Peeler 1991: 89). During this period, Costa Rica “demonstrably outperformed its neighbors on human development as measured by education and working conditions,” (Mahoney 2010: 193-194). While the relatively egalitarian distribution of land encouraged elites to provide public goods to people, this was not the only factor encouraging elites to provide goods. As Mahoney (2010: 263) argues, “Only when native populations were initially sparse or soon became sparse, as in Argentina, Costa Rica, Chile, and Uruguay, did elites come to view a substantial range of the population as being entitled to the fruits of economic development.” The combination of the way in which land was divided and the absence of a large, organized indigenous group facilitated the distribution of public goods in Costa Rica.

Governance: the settlement that ended the Civil War

An explanation of Costa Rica’s civil war is important background information for understanding the development of good governance in Costa Rica because of the way in which the war was settled. A Republican, Rafael Angel Calderon was elected president in
1940. Calderon is best defined as a “Christian democrat,” or a political conservative with a strong sense of social responsibility derived from teachings of the Catholic Church (Hoivik and Aas 1981). Calderon chose a “populist strategy” to gain support from working class groups in society (Peeler 1991: 93). In order to “provide workers with tangible benefits that might attract them to his cause, he formed an alliance with the Communist party,” (Peeler 1991: 93). At this time, the Communist party derived most of its political support from people who were working for the United Fruit Company. The abandonment of multiple Atlantic banana plantations in 1930 led to the rise of the communist party (Hoivik and Aas 1981). As President and with the support of the Assembly, Calderon passed a series of laws based on the provision of public goods including a social security system (Peeler 1991: 93) and amended the constitution in support of basic workers’ rights (Hoivik and Aas 1981). However, Calderon’s union with the Communist party upset his republican basis of support.

At the same time, the political left was frustrated with Calderon, not because of the social reforms he implemented but because of the way in which he used the achievements as a means to bolster his own political success (Peeler 1991). The left also suspected that Calderon was corrupt (Hoivik and Aas 1981). In response to this frustration, the Social Democratic Party, comprised of the center left and a more radical group formed, with Jose Figueres in charge. In 1948, Calderon sought to win the presidency again. When the results showed that the opposition, Conservative Otilio Ulate, had won, “the Calderonista majority in the Assembly voted to annul the election on grounds of fraud,” (Peeler 1991: 93-94). This upset the social democratic party. Jose Figueres, a social democrat but also staunch constitutionalist, believed Ulate was the
winner of the election (Hoivik and Aas 1981). In response to the Assembly’s vote, Figueres, who had been building a 600-man army at his rural home, marched on San Jose on March 12, 1948 and demanded that Ulate be president. Figueres’s army was called the National Liberation Army, and derived its soldiers from places including Nicaragua, Honduras, and the Dominican Republic, all places run by conservative dictators at the time (Hoivik and Aas 1981). Figueres’s decision to encircle San Jose with his army was part of his larger goal to liberate all Central Americas from dictators (Hoivik and Aas 1981).

A pact was signed on April 19, 1948 to end the fighting. President Picado (on behalf of the government troops) and Father Benjamin Nunez (on behalf of the National Liberation Army) signed this pact and instituted an interim president (Hoivik and Aas 1981: 337). The war had lasted six weeks and caused somewhere between 1,000-2,000 casualties, mostly on the government army’s side (Hoivik and Aas 1981).

On May 1, 1948, Jose Figueres signed a pact with president-elect Ulate. This pact left Figueres in charge of the country as the leader of a military junta for the next 18 months. The pact also stipulated that Ulate would become president after Figueres’s rule. According to Peeler (1991), diverse groups wanted to see a settlement drawn up to end the war. He writes,

“The Calderonistas wanted to avoid the destruction of their reforms and of their political position. The Communists wanted to retain legal status and their foothold in organized labor. Figueres’s conservative and business allies, backers of Ulate, wanted the latter declared president without having to depend on Figueres’s bayonets. The Social Democrats wanted the way cleared for creation of the new social democratic order envisioned in their program,” (Peeler 1991: 98-99).

The church, and to a lesser extent the United States government, also pushed for a settlement.
As a result of this pact, a commission to draft a new constitution was appointed. This new constitution abolished the army. According to Hoivik and Aas (1981: 342), the decision to abolish the army was not Figueres’s decision. Rather, the constitution was, “written by a group of young men related to the Social Democratic Party. They considered the abolition of the army as an integral part of a modernized Costa Rican state” (Hoivik and Aas 1981: 342). Since then, Costa Rica’s decision to abolish its army has been explained by, “The lack of military tradition in Costa Rica and the damaging effects of militarism…” (Hoivik and Aas 1981: 342). However, this claim merits closer inspection. First, the military was central to the formation of centralized state power during the 1800s, so Costa Rica’s history does not lack military involvement (Hoivik and Aas 1981). Second, although the “damaging effects of militarism” may partially explain the abolishment of the army, there are two other important details: size/strength and historical intervention from the US. By the time the military was abolished, it was very small (it only had about 1,000 men) and it was weak. The weakness of the army is obvious due to the fact that the national army surrendered to the army raised by an individual person, Figueres, at his home. In addition, throughout the first half of the 20th century, the United States intervened in Costa Rican affairs multiple times, which led to a decrease in Costa Rican national sovereignty and a growth in the idea that Costa Rica need not protect itself. For example, during the 1921 Coto War between Costa Rica and Panama over a border dispute, the United States intervened. This, in turn, “[limited] the Costa Rican state’s sovereignty, and made it unnecessary to maintain an army for external defense” (Hoivik and Aas 1981: 340). As Hoivik and Aas (1981: 343) put it, “The most significant factor behind the decline of the army was probably the ‘Pax
Americana’ imposed in the Caribbean region during the early decades of this century.” So although the state’s decision to abolish the army is often heralded as a display of the country’s peaceful values and overall exceptional nature, the decision really came about because the national army was so small and weak and because the country could rely on military assistance from the United States. As interviewee #9, a faculty member from the UCR explained, one thing Costa Ricans believe is that “because we’re different, all of the world has to help us” (“porque somos diferentes, todo el mundo nos tiene que ayudar”). As he went on to elaborate, after Costa Rica eliminated its army in 1949, Costa Ricans thought ‘nobody can attack us.’ But, if somebody does attack us, then the whole world has to help us. And by this, Costa Rica meant the United States has to help us.

In addition to abolishing the army, the new constitution also included provisions about “minimum wage, the length of the work week, rights of workers and employers to organize, and a social security net covering medical care” (Wilson 1994: 152). The constitution thus continued the pattern of providing generous social reforms (as described above). During this military junta, Figueres also established the Costa Rican Institute of Electricity (ICE- Instituto Costarricense de Electricidad), the public utility responsible for distributing electricity (Evans 1999: 55).

The settlement of the war and the years immediately following the war influenced the style of governance in Costa Rica. Following the creation of the political pact, the subsequent leaders of Costa Rica (Figueres and Ulate) left the reforms that Calderon had pushed through the government (the social security system) in place. According to Peeler (1991: 100-101), this is a critical detail in the history of Costa Rican democracy because it allowed Calderon to reenter Costa Rican politics with his institutional legacy intact. As
Peeler (1991: 101) claims, “… the decisions of 1948-9 laid the basis for peaceful political competition, by lending legitimacy not only to the voters but also to the most important of the vanquished.” Peeler (1991: 101) claims that Costa Rica is an example of “elite convergence,” or a “series of deliberate, tactical decisions by rival elites that have the cumulative effect, over perhaps a generation, of creating elite consensual unity, thereby laying the basis for consolidated democracy,” (Higley and Gunther 1991: xi-xii). In other words, by maintaining the pre-war changes that former president Calderon (who was extracted from Costa Rica right before the end of the war) (Peeler 1991: 99) had made, they allowed a way (even if unintentionally) for Calderon to reenter national politics. This was formative in creating a stable, “consolidated democracy,” (Higley and Gunther 1991: xii). In sum, the way in which the war was settled solidified Costa Rica’s democracy and this relates the provision of public goods (like a carbon neutral pledge) since democracies tend to provide more generous public goods (Battig and Bernauer 2009).

Governance: work on deforestation

Costa Rica’s history of responding to the problem of deforestation also shows how Costa Rica fits the profile of a country that is likely to make a carbon neutrality pledge. The history of dealing with deforestation in Costa Rica is a measure of political efficacy. It illustrates the government’s ability to get things done (even in the face of some dissenters). The government’s work combatting deforestation also shows the world that Costa Rica, as a country, cares about the environment.
There were some early 20th century efforts to protect land, but they were both poorly organized and poorly enforced. This included a 1906 law “which obligated the executive branch of government to recommend a general forest policy to the Assembly,” but was vague and a policy was never created (Evans 1999: 53). In 1913, the government designated Poás Volcano as protected, but did not follow up with any “authority or enforcement to monitor the mountain,” (Evans 1999: 54). It also included a 1939 Law No. 13 to protect area around volcanoes Poás and Irazú but included “no exact delineations or enforcement clauses,” (Evans 1999: 54).

It was not until the 1950s, however, that deforestation became a major problem that demanded a response. A growing demand for beef from the US fueled deforestation at this time. To John Augelli (1989) the 1950s comprise Costa Rica’s “era of transformation” due to the effects of agricultural development on the environment. Starting in 1950, the government pushed for the enhancement of agricultural exports. This push not only extended to traditional exports like coffee and bananas, but also to a wider array of agricultural exports, such as beef. The government had been concerned about the country’s overreliance on coffee and banana exports so it pushed for the export of new commodities, such as beef (Augelli 1989: 84).

The development of the beef export economy in Costa Rica drove up deforestation rates. As Augelli (1989: 87-88) writes, the beef export economy, “was achieved primarily by extending pasture lands into the unoccupied forested areas…” Rates of deforestation began to rise in the early 1950s and remained high through the mid-1980s (Daniels 2010, Nygren 2000). As Augelli (1989: 88) writes, “Between 1950
and 1984, the areas in Costa Rica used for farming and grazing increased more than 250% from 1,219,063 hectares to 3,070,643 hectares.”

At the same time, early efforts to develop the national parks were happening. After the establishment of the first nature reserve (Cabo Blanco) and the first national monument (Santa Rosa) there was some concern from government that they needed to create a more comprehensive, structured way to establish these sites and to protect forests in general. To that end, Guillermo Yglesias (minister of agriculture and livestock, 1966-1970) created “an interdisciplinary committee to research the problem and to prepare a draft forestry legislation,” (Evans 1999: 65). This commission consisted of a conservationist, and people from government agencies, the private sector, and the University of Costa Rica. The aim of the commission was to concretize a plan for how to protect land.

The coalition drafted a forestry law. Opposition to the bill eventually came from the Land and Colonization Institute (ITCO), which claimed it had the authority to designate which land could be used for agriculture and which would be protected, and the tourism council (ICT) which claimed it had the authority to establish national parks. There was also some opposition from the private industry, namely the Costa Rican Construction Association (Evans 1999: 68). Despite this opposition, the Forestry Law passed on November 25, 1969. As Evans (1999: 71) explains, the Forestry Law of 1969 was the “initial and most important step of the conservationist response to the environmental problems so besieging the nation by the end of the 1960s.” Following up on this law, in 1977 the government passed Reforestation Act No. 6184. This act made
reforestation projects mandatory by, “[requiring] state commercial banks to earmark 2% of all agricultural loans for reforestation projects” (Bennett and Henninger 2009: 1).

By the early 1980s, Costa Rica had the highest deforestation rate in the world, at about 4% of land deforested per year (Daniels 2010, Daniels et al. 2010, Evans 1999). However, by the mid-1980s, deforestation rates slowed because “the price of beef on the international market fell precipitously” from the prices it had maintained in the 1970s (Daniels 2010: 232).

In 1990, Costa Rica introduced Forestry Law No. 7174, which created FONAFIFO (Fondo Nacional de Financiamiento Forestal), the National Forestry Financing Fund (Bollman and Hardy 2014: 197, Daniels et al. 2010: 2119). FONAFIFO incentivizes small landholders to keep their land forested. In the years prior to the creation of the fund (1979-1987), about 2,000 hectares of land were reforested every year. In the years following the creation of the fund (1991-1995), about 17,500 hectares were reforested every year (Castro et al. 2000). The government put a tax on fossil fuels and gave FONAFIFO 3.5 percent of the money earned from that tax (Miranda 2006: 565). This was the primary funding source for FONAFIFO. FONAFIFO’s budget was also bolstered with a 1991 US-AID grant of $7.5M. Although FONAFIFO was created in 1990, it was not until post-1996 that “FONAFIFO’s official functions and responsibilities increased significantly” (Bollman and Hardy 2014: 197).

Further efforts to slow deforestation happened with the advent of the payments for environmental services program in 1996. A group known as FUNDECOR (Fundacion para el Desarrollo de la Cordillera Volcanica Central), or Central Volcanic Mountain Range Foundation, began as a group of people charged by the US-AID to work on a
project called FORESTA (the Forest Resources for a Stable Environment) (Borges-Mendez 2008: 368, Fletcher 2013: 157). According to Borges-Mendez (2008: 368), “From its inception, FUNDECOR received support from practically all political forces across the spectrum, and from all the critical ministries involved with environmental management.” The establishment of FUNDECOR was an important event in the history of the Costa Rican state’s process of responding to deforestation. FORESTA was a pilot program in creating a payments for environmental services program in the country (Borges-Mendez 2008, Fletcher 2013).

Drawing upon the work done by FUNDECOR, the government (under President Jose Maria Figueres of the liberal PLN party) added an addendum to the original Forestry Law to create the payments for environmental services program in 1996 (Daniels et al. 2010: 2117, Miranda et al. 2006: 565). The acronym in Spanish is PSA (Pago por servicios ambientales), or the program that pays for environmental services. By about the time the PES program was put in place, Costa Rica already had about 25 percent of its land area in protected spaces (Daniels et al. 2010, Evans 1999). However, deforestation of privately held land surrounding the parks continued, which created a structure in which parks existed as “forest islands” (Daniels et al. 2010: 2117). According to Daniels et al. (2010: 2117), “PES emerged in Costa Rica partly in response to the need to address land use choices on private property.”

The PES program pays landholders if their land provides one of four services: mitigation of greenhouse gas emissions, hydrological services, biodiversity conservation, or scenic beauty (Pagiola 2006). Landholders can participate in the program through four different land “modalities,” which are “(a) reforestation through plantations, (b)
protection of existing forest, (c) natural forest regeneration, and (d) agroforestry systems” (Daniels et al. 2010: 2117). By 2008, the vast majority (89 percent) of area that was part of the PES program had engaged in the second modality listed above: forest protection (Daniels et al. 2010: 2118). The emphasis on the protection modality illustrates a shift from pre-PES environmental service programs in Costa Rica. As Daniels et al. (2010: 2120) explain, “Pre-PES programs aimed for reforestation exclusively…”

FONAFIFO is in charge of the PES program and has served as the “bank” to pay small landholders for the services their lands provide (Daniels et al. 2010: 2119). In addition to still receiving its budget from the tax on fossil fuels, the PES program also received financial support from the World Bank and “a grant from the Global Environment Facility (GEF), through the Ecomarkets Project,” (Pagiola 2006: 3). The World Bank provided a credit line worth US $32.6 million and the Global Environment Facility gave a grant of US $8 million (Zuñiga 2003).

From 1987-2000, there was a net increase in forest cover in the northeast area of Costa Rica (Daniels 2010). This expansion in forest cover is due to the “conjecture” of several local, national, and global forces. Local forces included the intensification of land use practices. National forces included forestry incentives and payments for environmental services program (described above) (Daniels 2010: 244). Global forces include the decrease in the profitability of cattle ranching due to the drop in beef prices after the mid-1980s. As people avoided cattle ranching, spontaneous tropical regrowth of forests occurred (Daniels 2010: 245). The combination of local, national, and global forces meant that by 2000, land cover change (at least in the northeast section of Costa
Rica) ended up going from a source of greenhouse gas emissions to a sink of greenhouse gas emissions.

The Costa Rican government has invested significantly in the PES program. As Daniels et al. (2010: 2118) explain, “For the first decade of PES, the mean annual budget exceeded $13.3 million USD or 0.43% of Costa Rica’s 2006 national budget.” This level of investment is a reflection of the political efficacy directed toward the problem of forest cover in Costa Rica. “The extensive investment,” as Daniels et al. (2010: 2118) explain, “highlights the country’s commitment to landscape conservation…”. In addition, the program has enrolled landholders at a large scale. Over 700,000 hectares of land have been part of the PES program (Daniels et al. 2010: 2116).

The degree to which the government prioritized the PES program also raises the question of what kind of impact the PES program has had on Costa Rica’s forests. Overall, the results are mixed. In their meta analysis of articles on the topic, Daniels et al. (2010) find a discrepancy based on whether the studies were conducted at the national or sub-national levels. The data show that the PES program did not lower deforestation rates in studies conducted at the national level, but did help slow deforestation among studies conducted at the sub-national level. Daniels et al. (2010: 2122) claim, “National deforestation already saw a precipitous decline prior to PES—from over 1.3% for 1979-1986 to about 0.1% at the start of PES. The deforestation rate declined only slightly by comparison, after the PES program began.” This find suggests that factors besides the PES program contributed to the decline in the deforestation rate. In contrast, some studies conducted at the sub-national level show that PES “appreciably lowered the deforestation rate,” (Daniels et al. 2010: 2124). While PES has augmented reforestation in the country,
it has done less to slow deforestation. One reason for this is that “by the mid to late-90s when PES began there was relatively little deforestation to prevent compared with historical trends,” (Daniels et al. 2010: 2125). In sum, the program bolstered the improvement in reforestation, but did less to avoid deforestation. This aligns well with the above-cited work by Daniels (2010: 245), who found that as people avoided cattle ranching after the mid-1980s (due to the drop in beef prices), spontaneous tropical regrowth of forests occurred.

This section above illuminates that the PES program cannot be credited with significantly slowing national deforestation rates in the country. This is because most deforestation had slowed significantly by the time the program began. However, the evidence does show that the program was at least marginally helpful in bolstering reforestation efforts. The global drop in beef prices, and the resultant spontaneous tropical regrowth, also contributed to improving reforestation (Daniels 2010, Daniels et al. 2010). Despite the actual results, the creation of the PES program is a symbol of a political efficacy of dealing with the problem of deforestation.

As some scholars note, Costa Rica’s PES program has served as a model for other countries’ PES programs (Fletcher 2013, Pagiola 2008). And the program is certainly deserving of praise. According to Daniels et al. (2010: 2118), “Nominally influencing land use management through positive incentives, as opposed to regulatory land use restrictions, on such a large fraction of privately-held land may be unparalleled in the world.” However, one has to ask whether establishing this system was really that difficult of a feat. The establishment of the PES program might be similar in some ways to the abolition of the army. As the earlier section on the army demonstrated, abolishing the
army was a relatively easy political move to make because the army was so small and weak and because Costa Rica had been receiving military support from the US. All of these factors enabled the country to make a decision (abolish the army), which has huge value and would be difficult in almost any other context. The PES program might be the same. It was a relatively simple move to make because the program was tacked on to an existing law and by the time it started (1997), the worst of the deforestation problem was over. The confluence of these forces allowed the government to create the PES program, which again has huge symbolic value, is great for marketing, and would be very difficult to do in almost any other context.

As will be explained in the next chapter, the government’s PES program led some government officials to say that that government had already dealt with the problem of deforestation, and thus that global resources they theoretically could have used to slow deforestation (i.e., the CDM of the Kyoto Protocol) were not useful to them. Therefore, they had to pursue a different kind of policy (carbon neutrality) to fit their own needs.

Governance: development of the parks system

The development of the parks happened concurrently with efforts to slow deforestation. The efforts to develop the parks merit a section in this narrative because it, like the explanation of deforestation above, also provides evidence for good governance. Initially, isolated efforts, many of them from people not from Costa Rica, were responsible for the development of the first natural parks. For example, the first nature reserve (Cabo Blanco) was established in 1965 due to the efforts of a Scandinavian couple that received the financial backing for their work from various international
conservation organizations including the Sierra Club, the Nature Conservancy, the
of resources to develop Costa Rica’s national parks system were financed through foreign
investment (Campbell 2002: 35).

This is tied to good governance because the government responded to these
isolated efforts on park creation with comprehensive work to create more protected
places. Specifically, Guillermo Yglesias (minister of agriculture and livestock, 1966-
1970) created “an interdisciplinary committee to research the problem and to prepare a
draft forestry legislation,” (Evans 1999: 65). This commission brought together a
conservationist, government agencies, the private sector, and the University of Costa
Rica. The aim of the commission was to establish a plan for how the country would
protect land. Among other areas of focus, including protecting wildlife, promoting
environmental education, and setting standards for the destruction of forests, the law
created a General Forestry Directorate (DGF), which was responsible for overseeing the
national parks system (Evans 1999: 66). The law “was similar in many ways to the public
lands management language of U.S. conservation policy” (Evans 1999: 66). The eventual
product of this inter-agency coalition was the 1969 Forestry Law (described above). The
law established the national parks department “within the General Forestry Directorate
(DGF), a division of the Ministry of Agriculture and Livestock (MAG),” (Evans 1999:
72).

Mario Boza was “named chief of the new National Parks Department in 1970”
and he later brought on Alvaro Ugalde to help with the parks system (Evans 1999: 75). In
the early days of developing the national parks system, Boza’s ideas about how Costa
Rica could develop its parks were highly influenced by a 1967 trip to national parks in the United States (Evans 1999: 73). As Lowry (1998: 191) claims, many of Boza and Uglade’s ideas about the parks in Costa Rica “grew out of visits to American parks, particularly the Great Smokies and the Grand Canyon.” Boza and Ugalde made decisions about Costa Rican parks that mimicked what they had seen in parks in the U.S. For example, they had tourist facilities built outside, rather than inside the park, not only to protect nature but also to stimulate growth in the local economy rather than global, corporate activities (Lowry 1998: 191).

Early opposition to the development of the national parks came from two groups: squatters, or “precaristas,” meaning people on the edge, and ranchers (Evans 1999: 77-78). However, continued efforts from the government quelled these forces of resistance. In the early days of the parks, the government paid squatters to leave protected lands (Evans 1999: 77). Key individuals, including Mario Boza, Alvaro Ugalde, and first lady Karen Olsen de Figueres, pushed government officials to invest in, and thus protect, the parks. Farmers and ranchers continued their efforts throughout the early 1970s to encroach onto the parks and cut hay for their cattle, but Mario Boza continued to fight off these efforts largely by soliciting financial support from international agencies and foundations to protect the parks (Evans 1999: 884). In the mid-1980s, hundreds of people who practiced small-scale gold mining entered the park, against government policy. After the government “dislodged them by force in 1985,” the miners protested in San Jose and eventually received “land and monetary compensation from the government,” (Horton 2009: 96). The government intervened at various points to aid in the development of the national parks by paying civilians to leave lands designated as national parks.
Government support for the parks system centered around the facts that the parks would not only preserve the flora and fauna of the country, but also that they would encourage tourism and scientific research (Evans 1999: 72). Boza and Ugalde were not only the founding fathers of Costa Rica’s national parks system, but also grew to become “legendary conservationists,” (Fletcher 2013: 157). They went on to win numerous prestigious awards.

Today, about 25 percent of Costa Rica’s land area is set-aside in protected areas. This statistic is quite high compared with other nations. Using the World Bank’s terrestrial protected areas indicator\(^\text{13}\) Costa Rica had 20.92 percent of its land area protected in 2005. The discrepancy between the 25 percent and 20.92 percent figure likely comes from the fact that the World Bank does not include marine areas or littoral areas (World Bank 2016). This likely means that Costa Rica’s Isla del Coco National Park is probably not included in the World Bank’s calculation, despite the fact that the Costa Rican government considers it a protected area (SINAC nd). Based on these available data, Costa Rica ranks in the top 16 percent of countries based on land area protected\(^\text{14}\). If we compare Costa Rica to other countries based on it having 25 percent

\[^{13}\text{According to the World Bank (2016), “Terrestrial protected areas are totally or partially protected areas of at least 1,000 hectares that are designated by national authorities as scientific reserves with limited public access, national parks, natural monuments, nature reserves or wildlife sanctuaries, protected landscapes, and areas managed mainly for sustainable use. Marine areas, unclassified areas, littoral (intertidal) areas, and sites protected under local or provincial law are excluded.”}\]

\[^{14}\text{Using data from the World Bank (2016), 34 countries had protected more than 20.92 percent of land area, indicating that Costa Rica is among the top 35 countries in terms of total land area protected. 35 divided by 218 (total number of countries according to the World Bank) is equal to 0.16, indicating that Costa Rica is in the top 16% of countries in terms of percent of terrestrial land area protected.}\]
(instead of 20.92 percent) of land protected, Costa Rica ranks in the top 11.5 percent of countries based on the amount of land area protected.

Governance: peace

Another formative event in the establishment of good governance in Costa Rica was former President Oscar Arias’s Nobel Peace Prize. Arias, a member of the liberal PLN party and descendant of the country’s coffee elite (Paige 1997), became president in 1986. Under his leadership, in 1986 the government created the Ministry of Natural Resources, Energy, and Mines (MINEREM) (Evans 1999). President Arias won the Nobel Peace Prize in 1987 for writing a peace accord amid civil wars in Central America. The governments of Costa Rica, Guatemala, El Salvador, Honduras, and Nicaragua signed the plan (Nobel Prize 2015). Arias’s win triggered the growth of tourism in Costa Rica, especially tourism with an environmental aspect to it. According to Honey, Vargas, and Durham (2010: 16), once he won the Prize, “Costa Rica’s international reputation and tourism prospects quickly changed. Between 1989 and 1994, international tourism more than doubled, from 376,000 to 761,000. This growth was predominantly in ecotourism, not the resort tourism for which the government had scoped out Guanacaste.” As the authors further elaborate, Costa Rica’s ecotourism is perhaps best described as “largely homegrown, based on its outstanding network of public and private parks, as well as its relatively good infrastructure, large middle class, well educated and healthy work force, and stable, democratic government,” (Honey, Vargas, and Durham 2010: 16). The country’s stability and its geographic positioning near to the United States allowed
the country’s tourism industry to flourish quickly in its early days (Honey, Vargas, and Durham 2010).

How people talk about governance

The above findings explain how Costa Rica came to be a country with good governance scores on global indices. This section shows that size, isolation, and an egalitarian agricultural economy generated political processes with outcomes like the abolition of the army, the development of the national parks system, PES legislation, and the peace effort—all of which embody good governance and are examples of government-provided public goods. In other words, the “underlying” social factors (size and class structure) gave way to the “proximate” driver of social change—good governance (Geist and Lambin 2002: 143). While these findings help outline an event-based narrative explanation of good governance, they leave out the “human” element of good governance. In other words, the above narrative does not explain how Costa Ricans interpret governance in their politics. I include below a section that draws upon interview data to describe how Costa Ricans spoke about governance.

Impressions of governance: isolation

The analysis above described Costa Rica’s history of isolation, not only during the colonial period but also during the years of the Central American Federation following independence. In my interview with him, interview # 9, a UCR professor, explained that a defining feature of Costa Rican history is that we believe “we are an island” (“somos una isla”). He elaborated that this statement is grounded in two
dimensions of history. The first is that Costa Rica is a country that has been more concerned with its international image than its image among its neighbors. He said, we forgot about the rest of Central America “but we didn’t forget about the world” (“pero no olvidamos del mundo”)- specifically, we didn’t forget about how Europe and the US see us, and how we can be more like them. The second dimension of Costa Rica being an “island” is that people in Costa Rica focus on San Jose. As he explained, “nos enceramos,” meaning we closed ourselves in, or we focused on our center. We are not, as he put it, a country that historically focused on its coasts. People in Costa Rica have always lived in the central valley - not just in San Jose, but also in nearby cities including Cartago (the former capital), Heredia, and Alajuela.

The country’s lack of engagement with matters of the Central American Federation put Costa Rica on a track to avoid involvement in wars with its neighbors and instead to look outward for countries to mimic and engage with. At the same time, elites have always concentrated in the central valley. This means that elite decision makers are highly concentrated in a small geographic area. This likely facilitates elites’ interactions with each other (see section on scale above).

Impressions of governance: land

In his interviews with members of Costa Rica’s coffee elite, Paige (1997) found that the elite attributed Costa Rica’s exceptional social and economic history to the development of the coffee economy. As he put it, they described the coffee economy as “a guarantor of Costa Rica’s peace and democratic stability,” partly because small landholders, rather than a large, landed elite produced the country’s coffee (Paige 1997:}
223). Some of the people I spoke with had a similar message. For example, respondent #10 (director of a carbon neutrality program at a university) spoke with pride about the way in which land is distributed in Costa Rica. He explained that Costa Rica does not have huge, privately held lands or “latifundios,” like there are in Nicaragua, Guatemala, and Honduras. As he put it, Costa Rica is a country of small landholders and we have a history of high political participation.

Impressions of governance: democracy

Multiple interviewees described the importance of Costa Rica’s democratic stability in the country’s governance. When asked why he thought Costa Rica, as opposed to another country, had made a carbon neutral pledge, respondent #10 explained that there’s a history of democracy in Costa Rica and that “democracy is a style that permits sensibility with respect to environmental issues.” He added that there is both high social participation and high levels of education here in Costa Rica, and when people have more education, a place “is more open” (“es mas abierta”). To further emphasize his pride in Costa Rica’s democracy, he explained, “Costa Rica has been a democracy since it was a colony.” To elaborate, he said, the mestizos didn’t have politics, “because they were mestizo.” But once we moved the capital from Cartago to San Jose (in 1824), then we had democracy. In other words, this interviewee clearly distinguished between “Costa Ricans” and “mestizos,” saying that the latter didn’t have democracy simply because they weren’t Costa Rica. This sounds similar to what Paige (1997: 232) found when he spoke with members of Costa Rica’s coffee elite. His interviewees had mixed views about whether they thought Costa Rica was a place where people are “white” or was a “melting
pot”; however, almost all of his interviewees like this interviewee described above, “thought that race was an important factor in accounting for Costa Rica’s democratic peace and stability,” (Paige 1997: 232).

Impressions of governance: peace prize

Again, the words of interviewee #9 serve to elaborate how the Nobel Peace Prize dramatically changed Costa Rica. He emphasized the importance of Arias’s win for Costa Rica on an international level. He said the win was another “key” (“clave”) element in the projection of the image of Costa Rica that “we are the best” (“somos los mejores”). He told a story about how he was on a train in Japan years ago and someone asked where he was from. He told the person that he was from Costa Rica and the person responded, oh wow, country of the Nobel Prize winner! He explained, however, how Arias’s win made many people in Central America dislike him especially because the President of Guatemala thought the prize should have gone to the presidents of all 5 countries that participated or just to him and Arias, but not to Arias alone. He explained that Arias wrote the actual document about achieving peace, but that Arias and the President of Guatemala had the first talks about the peace process in Central America. Despite this, Arias’s win meant that the late 1980s in Costa Rica were characterized by peace. That was the “theme,” as he put it. This interviewee’s words reinforce themes from Paige’s (1997) work. Paige (1997: 219) writes that Arias’s victory was an “affirmation of the values of the Costa Rican national ideology of democratic exceptionalism.” His victory served to bolster the myth of Costa Rica’s history as a “rural democracy,” (Paige 1997: 222).
Impression of governance: scale and democracy

A final example comes from interviewee #12 (biologist, government consultant, and founder of an NGO). In describing why he thought Costa Rica was the kind of place that would make a carbon neutrality pledge, he first explained the kinds of places that would not make a pledge. It would be impossible, he said, to make a carbon neutrality pledge in countries like Chile or Nicaragua. It would be impossible in countries with armies or in countries where hunger is the main issue, like countries in Africa. As he put it, it’s never going to happen there. He went on to say you don’t need to be a developed country, because we’re not, but you’ve got to have certain things, like human rights and water, to make a carbon neutral pledge. He said, it’s not going to happen in Haiti.

He further elaborated by saying that things happen here (in Costa Rica) that couldn’t happen elsewhere, and gave the example of the elimination of the army. Here, he said, we’re all equals. You can actually get access to any person who makes decisions and called Costa Rica “very human,” (“muy humana”). He said other countries are too big—there’s not a long of easy access to political figures and there are too many levels to work through. Democracy, he said, makes this easier. The above comment illustrates an interweaving of how the dynamics of scale, class structure, and good governance make Costa Rica a place that is inclined to make a carbon neutrality pledge.

Fourth relevant causal condition: NGOs

Another relevant causal condition for states to make carbon neutrality pledges is NGO presence. Nation-states with more global environmental NGOs are more inclined to make
carbon neutral pledges. There is a history, throughout the 20th century, of NGOs being active with environmental issues in the country. There is a history here that connects scientists and NGOs. In other words, the view of Costa Rica as a place for biological research fostered the development of environmental NGO growth.

NGOs: Science and “thickening” of civil society

In Costa Rica, there is a historical connection between natural science and NGO development. In some cases, scientists come to Costa Rica for their research and begin their own NGOs. In other cases, scientists who are from Costa Rica not only do their research but also try to attract funds to Costa Rica for various initiatives supported by NGOs. To understand this connection, it makes sense to start with a brief history of scientific interest in Costa Rica. Beginning in the mid-1800s, Costa Rica experienced an influx of foreign scientists who were interested in studying the tropical ecology of the country (Evans 1999: 15-17). These scientists were largely drawn to the region because of two factors: “international demand for coffee and speculation of a trans-isthmus canal in lower Central America” (Evans 1999: 16). As more and more foreigners came to Costa Rica, their arrival stimulated the growth of schools and institutions that promoted fine arts (Evans 1999). By the early 1900s, scholars had established a Physical Geographic Institute and an observatory, which facilitated the arrival of additional foreign scholars interested in doing research in Costa Rica (Evans 1999: 19). In other words, the presence of foreign scientists contributed to the development of key institutions, which in turn attracted more scientists. As Evans (1999: 20) claims, “By 1914 Costa Rica had become the center of scientific research in tropical America.
As the University of Costa Rica (UCR) expanded in the 1950s, scientists continued to flood in. During the mid 20th century, a series of local scientists and those from abroad began to pair their research with work to lobby on behalf of conservation or create new NGOs. This was the beginning of the historical period with the country’s highest deforestation rates (Daniels 2010, Evans 1999). A few individual examples should illuminate this connection between doing research and having a role in civil society. Archie Carr, a herpetologist at the University of Florida, designed a curriculum for the UCR’s School of Biology (Evans 1999). Carr later went on to lobby on behalf of green sea turtles and to found the “Caribbean Conservation Corporation (CCC), the first nongovernmental conservation organization in Costa Rica,” (Evans 1999: 25). Carr authored a series of best-selling books in English on turtles and spent two-years affiliated with the University of Costa Rica (Ehrenfeld 2015). Venezuelan Gerardo Budowski got his degree in science from Costa Rica’s CATIE (Center for Tropical Agricultural Research and Education) before pursuing a doctorate in forestry at Yale University. He went on to promote conservation in Costa Rica and abroad through a variety of means, including as director general of IUCN, as a board member of the WWF, and as president of the World Ecotourism Society (Evans 1999: 24). Budowski’s student, Mario Boza, received degrees from CATIE and UCR before becoming the first head of the national parks service and the “founder and director of the conservation organization Fundacion de Parques Nacionales,” (Evans 1999: 24). In the early 1970s, while working on his dissertation on birds in the Monteverde Cloud Forest Preserve, George Powell partnered with the Costa Rican Tropical Science Center (TSC) to create a non-profit organization to raise funds to protect and expand the Monteverde preserve. They “received hundreds of
thousands of dollars from international conservation organizations to acquire the land, and expanded the area into a 10,000-acre preserve,” (Evans 1999: 26). Alvaro Ugalde, the UCR-trained biologist who became the director of the national parks service after Boza, was also a founding member of a Costa Rican NGO, Fundacion Neotropica, in 1985 (Evans 1999: 157). Daniel Janzen, a biologist who studied at the Organization for Tropical Studies (OTS) in Costa Rica and later University of Pennsylvania professor, went on to become (and remains) a prominent figure in conservation in Costa Rica. By the mid 1980s, Janzen had already been researching and living (for about ½ of each year) in Costa Rica for 20 years. During the second half of the 1980s, Janzen was able to realize his efforts to develop Guanacaste National Park. The development of the park relied substantially on major donations from the National Conservancy, the World Wildlife Fund, among other groups and Janzen was directly involved in garnering financial support from these institutions (Evans 1999: 155-158). Janzen has been a prolific author on the topics of Costa Rica’s national park and biodiversity, among others.

Good governance permits, if not encourages, scientists to stay in Costa Rica to do their research. The above examples show that when scientists stay long enough and become invested in their research, many are inclined to create NGOs, promote conservation through existing NGOs, or help bring resources into NGOs in Costa Rica. As Boza et al. (1995: 684) write, although Costa Rica is not “ecotopia,” in Costa Rica a researcher can reasonably expect to “start a lengthy project here, work in relative security, and know that a coup, famine, or government expropriation won’t rub out years of data.” In other words, scientists are encouraged to stay in Costa Rica because of the political stability. Staying there also enables scientists to take a stand in civil society
activities. As this description shows, good governance facilitates NGO presence and capabilities through scientific research.

The above examples also reveal that many scientists in Costa Rica are not only involved in civil society work in the country but many are also involved in politics. Some take on formal positions in government (i.e., Boza and Ugalde), while others have taken on informal roles, such as consultants (i.e., Janzen). These findings show that there is a revolving door between science, NGOs, and sometimes government. As Hrabanski et al. (2013: 130) put it, “In Costa Rica, the circulation of actors occurs between academic research centres, the State apparatus, and NGOs,” (Hrabanski et al. 2013:130). To elaborate, they provide an example of a former Minister of the Environment who previously had worked at CATIE (Center for Tropical Agricultural Research and Education) and who subsequently (and still) worked for Conservation International.

This section shows the following. Costa Rica has historically been, and continued to be, an attractive place for scientific research given its vast biological wealth. The political stability encourages researchers to stay. Staying allows scientists to be active participants in the process of “thickening” civil society (Fox 1996) in Costa Rica by creating NGOs, staffing NGOs, advancing NGOs’ work, and bringing in funds to support NGOs.

NGOs: Involvement in creating national parks

Another way in which international NGOs have influenced environmental issues in Costa Rica is through their financial support for the development of national parks. In the early days of the parks, domestic financial support was hard to come by. Boza could
get little financial backing from the Costa Rican government since the parks had to compete with other national efforts, the department lacked experience, and it lacked the support of public opinion (Boza 1993, Evans 1999: 83-4). In response, the parks department sought the financial aid of “international assistance agencies” and “conservation foundations,” (Evans 1999: 83). This was, as Evans (1999: 84) explains, “the start of a long and warm relationship between the administration of the Costa Rican park system and the international philanthropic community.” Resources from international NGOs continued to pour in during the mid-1970s, as funds arrived from “IUCN, World Wildlife Fund, Nature Conservancy, Sierra Club, and various European environmental groups,” (Evans 1999: 91). For example, WWF was involved with creating Corcovado National Park on the biodiversity ‘hot spot’ of the Osa Peninsula in 1975 (World Wildlife Fund 2015). The financial backing of these same organizations even continued during Costa Rica’s “crisis years” of the early to mid 1980s (Evans 1999: 112-113). In addition to financial resources, Boza also sought equipment from international organizations to assist in the department’s efforts to slow the work of poachers (Evans 1999: 87).

While many large international NGOs were involved in the development of Costa Rica’s national parks system, local NGOs also had a role. One domestic NGO that was particularly active in the founding years of the parks was ASCONA (the Costa Rican Association for the Conservation of Nature). Founded in 1972 by a group of concerned UCR students, ASCONA “was the country’s first “grassroots” environmental organization,” (Evans 1999: 199). ASCONA pursued various tactics at key moments of the process of establishing the parks, including its decision to sue the government over
the government’s decision to remove part of the land in Palo Verde Park from the national park. Although ASCONA lost the battle in the Supreme Court, the lawsuit represented a significant moment in the country’s environmental movement (Evans 1999: 137-138).

NGOs: Involvement in debt-for-nature swaps

One way in which Costa Rica’s close ties with international conservation organizations expanded is through the development of debt-for-nature swaps. Since the 1980s, NGOs have been involved with some debt-for-nature swaps that have taken place in Costa Rica. Costa Rica was the third developing country in the world to engage in a debt-for-nature swap in 1988, following on the heels of Bolivia and Ecuador who pursued swaps the previous year (Thapa 1998: 257). In a very short article published in the New York Times in October 1984, Thomas Lovejoy, a vice president for science with the World Wildlife Fund, called for the expansion of a way to forgive debtor countries’ debts while simultaneously protecting their environment (Lovejoy 1984). From this article, the concept of debt-for-nature swaps was created.

Some debt-for-nature swaps are bilateral, meaning that a creditor nation forgives a small percentage of a debtor nation’s debt in exchange for that debtor nation’s commitment to invest in a domestic environmental project. Other debt-for-nature swaps are trilateral, involving not only the debtor and creditor nations but also an international NGO. Conservation International, The Nature Conservancy, and the World Wildlife Fund have been the INGOs most involved in debt-for-nature swaps (Deacon and Murphy 1997: 2-3). As Thapa (1998: 255) explains, there are certain procedures in trilateral debt-for-
nature swaps. First, an INGO has to “establish a dialogue with the debtor country, and eventually gain approval from the principal players of the debtor country (government, central bank and a domestic NGO). It must not have been hard to get approval from the Costa Rican government in the late 1980s, as President Oscar Arias Sanchez made a strong push for more debt-for-nature swaps in a *New York Times* article (Arias Sanchez 1989). Once approval is met, “negotiations occur and eventually mutual agreements are reached in terms of funding potential projects and the mechanism of funding,” (Thapa 1998: 255). Once a sponsor (i.e., a foreign government, banks, private foundation), is found, the sponsor “will buy the debtor’s debt or receive a donation in exchange for investment of local currency, used towards environmental protection projects in the debtor’s country” (Thapa 1998: 255). Between 1988-1991, Costa Rica engaged in six debt-for-nature swaps (Thapa 1998: 257).

In their work, Deacon and Murphy (1997: 19) find there are certain characteristics that make states more likely to adopt debt-for-nature swaps. Specifically, tropical countries with large numbers of endangered species, countries facing high debt burdens, and countries with democratic governments are more inclined to adopt debt-for-nature swaps than are other countries. First, the authors argue that countries with higher percentages of land considered tropical and greater threats to species (measured by the number of threatened birds and plants per hectare, combined with the rate of deforestation) will be more inclined to have debt for nature swaps because the “environmental attributes” of these countries align with the goals of INGOs (Deacon and Murphy 1997: 14). Second, countries with debt burdens so high that it is almost inconceivable that they will ever repay them are inclined to make debt-for-nature swaps
since the swaps erase a (small) percentage of that debt (Deacon and Murphy 1997: 14).

Third, democratic countries should be more likely to make swaps. As the authors explain, debt-for-nature swaps involve a steep cost because they require that contracts be established between the INGO and the domestic government. INGOs strategically pursue where they are willing to establish a swap and as the authors claim, “Contracts are postulated to be least secure when contract enforcement and the judicial process in the host country are controlled by individuals or cliques rather than laws, constitutions, and anonymous legal institutions, and when the host government is vulnerable to overthrow,” (Deacon and Murphy 1997: 15). In other words, countries with stable democracies are the most likely venue for debt-for-nature swaps because it is unlikely that the time and energy spent on arranging a swap will be wasted in a stable democracy. This echoes Lewis’s (2000, 2003) findings that political factors in a country, not indicators of biological diversity, determine whether transnational social movement organizations (TSMOs) work in a state and that US-based and global multilateral donor agencies tend to favor giving environmental aid to stable democratic states, over states without this type of political system.

Costa Rica meets the institutional profile of a country that is likely to make debt-for-nature swaps. First, it is a tropical country. Also, in the 1980s, Costa Rica presented a threat to species, mostly because by that decade Costa Rica had the highest rate of deforestation in the world at about 4% per year. Second, Costa Rica had exceptionally high debt. In 1983, the Costa Rica’s international debt totaled US$4 billion, which at the time, was “one of the largest per capita debts in the world” (Wilson 1994: 153). Furthermore, between 1977 and 1982, the “costs of servicing” the debt jumped
from US$60 million to US$510 million (Wilson 1994: 153). Third, as has been discussed earlier, Costa Rica has had a stable, democratic regime since its brief Civil War in 1948 and used a new constitution to abolish its military the following year.

These findings again show the connection between the governance factor and NGOs. The presence of a stable democracy in Costa Rica enabled INGOs to come to Costa Rica and then have a larger role in debt-for-nature swaps. This is potentially also a reciprocal relationship—once established people from the INGOs can strengthen the political hand of those who would push for things like debt-for-nature swaps. This section also shows another instance of Costa Rica being out front in terms of environmental actions. When Costa Rica started pursuing debt-for-nature swaps, they were a largely untested environmental mechanism. This would again be the case with the carbon neutral pledge in 2007.

NGOs: Involvement in Payments for Environmental Services

Although INGOs were involved in the development of the parks and some of the debt-for-nature swaps (Thapa 1998: 257) INGOs have been significantly less involved in more recent issues of Costa Rican environmental politics, including the payments for environmental services (PES) program developed in 1996. Hrabanski et al. (2013:130) simply say, “The large environmental NGOs were not involved in creating the PESP [payments for environmental services program].” Rather than being involved in creating policies (including the PES program), Hrabanski et al. (2013: 128) find that INGOs use the Costa Rican experience as a model and try to export what worked in Costa Rica to other places. Since 2005, Conservation International has pushed for the development of
payments for environmental services programs in Guatemala that builds off of the Costa Rican experience. The authors argue that Costa Rica “has not been a priority for these NGOs for investment or intervention,” but rather is “seen as a laboratory for testing new solutions,” that can be exported to other countries (Hrabanski et al. 2013:128).

Although the INGOs were not involved in creating the payments for environmental services program, domestic NGOs were. As described in the earlier section on governance, a grant from US-AID, coupled with support from the Costa Rican government, charged a group of people in Costa Rica to develop what became the pilot project for the payments for the environmental services program (1996). This group of people eventually developed into the NGO FUNDECOR (Borges-Mendez 2008, Fletcher 2013).

How people talk about NGOs

The findings above explain the history of INGOs’ involvement in Costa Rican environmental politics. They show how civil society grew in Costa Rican society because of the rich environment there and how scientists’ interest in coming to, and staying in, Costa Rica for research was facilitated by good governance. The narrative above also shows the changing nature of INGOs’ involvement in Costa Rican environmental politics, from creating the parks, to debt-for-nature swaps, to the payments for environmental services program. While INGOs were very involved in the development of the national parks, they were much less involved in the payments for environmental services program and now seem to be putting their energy into exporting the Costa Rican model to other countries.
To supplement this history, I include below a section on the way people talk about INGOs in Costa Rica. Overall, people spoke about domestic and international NGOs in different ways. When describing domestic NGOs, people tended to take pride in the preponderance and achievements of these NGOs. In talking about INGOs, interviewees acknowledged their presence but either criticized their work or had almost nothing specific to say about them.

On the one hand, some interviewees took pride in Costa Rican NGOs. Respondent #9, a UCR faculty member, explained that during the first presidency of Oscar Arias (1986-1990), the environment was not a priority to the government. The government’s priorities were to take charge of economic restructuring, deal with the IMF, and try to do business with European companies. But, he explained, Costa Rica didn’t abandon its environmental discourse because people were still working on environmental issues. Mainly, people did this work through local NGOs, as there were not many global NGOs at that time. He added, there are a lot (emphasis on a lot) of NGOs in every issue area today. Some are more credible because they are clear about where they get their funding from, but overall there are many and they are active.

Respondent #15 (biologist, presidential advisor, UCR professor, NGO leader) had more explicitly positive things to say about domestic NGOs. Following the carbon neutral pledge in early 2007, in late 2007 the Ministry of the Environment announced that the government would open an open mining pit for gold at Las Crucitas mine. President Arias approved of this, saying that it was in the “national interest” (see Broad and Cavanaugh 2015). In response to this, the interviewee explained, “the whole country rose” and ousted the Canadian company that was going to mine at Las Crucitas. He went
on to explain that there are a lot of very conservative environmentalists here in Costa Rica – conservative in the sense that they do not want any land touched. As he put it, NGOs are very important here. Costa Rica has “hundreds” of NGOs. He added, if you go out into the countryside, you see NGOs everywhere—foundations, organizations, etc.

On the other hand, interviewees described international NGOs really without enthusiasm. INGOs were not framed as bad per se, but not exactly helpful either. Respondent #12, a biologist, environmental consultant to the government, and creator of a local NGO, critiqued INGOs. He said that if he were in charge of the Ministry of the Environment, he would say ‘Costa Rica is in an era of climate change’ and this is an emergency. As a biologist, he said he is interested in adaptation, and when asked what he thought about the work of global NGOs in climate change efforts in Costa Rica he said, The Nature Conservancy, Greenpeace, 350.org, they all write “conscience reports.” These reports make it so that when people think about climate change, they think about penguins and polar bears. As he put it, we don’t have these things here. People don’t think, he said, about stuff that is right in front of them, and it’s been this way for 35 years. In other words, he not only seemed to think that these INGOs were not committed to his ideas about declaring climate change an emergency, but also that they were actually distracting people from grasping the local impacts that climate change will have on Costa Ricans.

While the above respondent was relatively critical of INGOs, a more common impression of INGOs was to actually have very little to say about them. A few examples should clarify this. When asked how large, international NGOs including The Nature Conservancy (TNC) and the International Union for the Conservation of Nature (IUCN)
were involved in the carbon neutral pledge, respondent #10 simply said they were not involved. When asked about the involvement of INGOs like TNC and IUCN, respondent #20 (government consultant for climate change) said “they all work in the theme of climate change,” (“todos trabajan en el tema de cambio climático”) but didn’t explain how or why that mattered. When asked about the role of international NGOs in the lead up to the public announcement of carbon neutrality, the Minister of the Environment in 2007 (respondent #16) simply said, I think that some big ones were able to bring funds into Costa Rica. Interestingly, as will be discussed more in the next chapter, the government-led coalition that came together to work on carbon neutrality did not include representation from INGOs. The representatives in this coalition came from government, science, industry, and domestic NGOs.

So far, these results seem to suggest that the relationship in the QCA between the presence of environmental INGOs and the carbon neutral pledge may be a spurious one. It may be, as Lewis (2000) found, that transnational social movement organizations tend to work in places like Costa Rica because they are stable, democratic countries where political elites are inclined to give NGO advocates a hearing in policy formulation processes. In other words, the results suggest that INGOs were in Costa Rica at the time of the carbon neutrality pledge but were not directly involved in the policy formulation process, nor did NGO advocates push government officials to take a leadership role in the area of carbon mitigation.

Other relevant causal conditions
To this point, this chapter has explained how Costa Rica fits the institutional profile of a country that is likely to make a carbon neutral pledge. Again, this institutional profile was derived from the fuzzy-set qualitative comparative analysis of the previous chapter. The task of this chapter has been to explore the development of Costa Rica’s small scale, egalitarian class structure, good governance, and INGO presence. However, the findings from the fsQCA are probabilistic, not determinative. In other words, the fsQCA results reveal which kinds of countries are inclined to make a carbon neutral pledge, not which countries are definitely going to make a pledge. There are characteristics that are unique to the pledging nations that encouraged the development of the pledge, and yet are not captured in the fsQCA. This section explores two unique traits of Costa Rica that encouraged the development of the carbon neutrality pledge.

Tourism

The first characteristic is tourism. In the fsQCA, tourism was not a relevant causal condition, meaning that it did not help distinguish between pledge adopters and non-adopters. Subsequent analyses showed that pledge adopters depend on travel and tourism for their GDP on average, about twice as much as the non-adopters.

Tourism and science

According to Evans (1999), the idea of promoting nature-based tourism in Costa Rica dates back to the early days of creating the national parks. In fact, the Costa Rican Institute of Tourism (ICT), created in 1955, had the authority to designate parks (though
it never used it). This was one reason why the ICT resisted the 1969 Forestry Law, which consolidated power to designate parks in the National Parks Department (Evans 1999).

In the earlier section on NGO presence, the connection between NGOs and scientists was discussed. Scientists not only fostered the development of civil society organizations but also helped encourage the tourism business in Costa Rica. One excellent example of this is the Organizational for Tropical Studies (OTS). The OTS began in the early 1960s as a project led by scientists from US universities who partnered with researchers from the University of Costa Rica (Hubbell 1967: 237). The aim of the OTS has been to encourage scientific research, in part by offering educational opportunities for students and scholars from around the world. OTS has been very successful in meeting this goal. According to Evans (1999: 219) scientists, “…may not have started coming to Costa Rica in the early 1960s for fun or entertainment, but their dollars added to the foreign tourist trade and helped to launch a thriving academic tourism business.”

Tourism and peace

While many ecotourism entrepreneurs began in the 1970s it was not until the late 1980s that the tourism boom began in Costa Rica. The growth in tourism in the late 1980s has been attributed to President Oscar Arias’s 1987 Nobel Peace Prize (Evans 1999: 227, Honey et al. 2010: 16). Between 1986 and 1995, the number of foreign tourists visited Costa Rica more that tripled (Evans 1999: 227). The largest share of tourists come from the United States (Evans 1999, Honey et al. 2010).
The way people talk about tourism

A few interviewees described how a carbon neutral pledge would only augment the country’s efforts to grow the industry of nature-based tourism. The former Minister of the Environment (respondent #16), explained that when he visited the chamber of hotel owners he essentially told them about the carbon neutrality pledge and they got onboard with the idea. As he put it, the consumer wants the nice hotel with the nice view, but they’re going to pick the carbon neutral one over the non-carbon neutral one. “Why wouldn’t they?” As he explained, businesses could introduce carbon neutrality as an additional factor. “It’s good business.” As respondent #18, an author of the national plan for climate change put it, carbon neutrality is a “competitive plus” (“plus competitiva”) for hotels.

The 1921 Centennial Celebration

The second trait that is unique to Costa Rica and that may have encouraged the development of the carbon neutrality pledge was the way in which the country celebrated its centennial, in 1921. When Costa Rica adopted its carbon neutral pledge, it aimed to fulfill that goal by the year 2021, the same year as the country’s 200-year anniversary of independence. There is an interesting connection between the way in which the country celebrated the centennial (in 1921) and the way in which political elites are planning to celebrate the upcoming bicentennial that merits a short section here.

Fumero-Vargas’s (2005) cross-national comparison on how countries of Central America celebrated September 15, 1921- the centennial of their independence from Spain- also tells us something about the process that led up to the public commitment of
carbon neutrality. By the late 1910s, the Costa Rican government lamented the lack of nationalism in the public, especially in how schools did not prominently feature national symbols and how the citizenry did not typically pause to celebrate the day of September 15 (Fumero-Vargas 2005: 126). As Fumero-Vargas (2005: 126-127) explains,

“The lack of patriotism highlighted in subsequent years by the media produced a national discussion on how Costa Rica should celebrate the Centennial. For that purpose, the government created a committee as early as January 1920 and made official arrangements to prepare a historical, biographical, and geographical dictionary, a collection of documents related to independence, medals, stamps, the organization of a historic-artistic exhibition and a conference where children would be the only topic studied.”

She adds, “… society as a whole thought it was time for renewal of Costa Rica’s nationalism and saw the need for changes so symbology and discourse could appeal to new generations,” (Fumero-Vargas 2005: 127). Fumero-Vargas (2005: 137) goes on to elaborate how Costa Rica’s centennial was different from that of its neighbors; “Costa Rica, unlike the other Central American countries, focused the official celebrations for the Centennial on the school system and not in popular participation.” At this time, Costa Rica far outpaced many other Latin American countries in terms of the proportion of resources they invested in education and in literacy rates (Fumero-Vargas 2005: 128-130). Many activities of September 15, 1921 prominently featured school children, including parades. In other words, the Costa Rican government used the day to show “its citizens and the world the advancement in the intellectual, artistic, and athletic capacity of their children,” (Fumero-Vargas 2005: 138).

The way people talk about the bicentennial
The way in which people spoke about the 2021 goal makes it look like the centennial celebration was an historical antecedent to the bicentennial celebration. Costa Rica set out to become carbon neutral by 2021, the date of the country’s bicentennial. As respondent # 18, an author of the national plan who was brought in to work on carbon neutrality by the Minister of the Environment (Roberto Dobles), explained, reaching carbon neutrality by 2021 was the “principal reason” that motivated our efforts on carbon neutrality. The goal was to coordinate the achievement of carbon neutrality with the 200-year anniversary of our independence. During its 100-year celebration, the government focused the celebration on an element of its society in which it far outpaced its neighbors: literacy. It appears that with the 200-year celebration, the government has done the same thing. It focused its attention on an area where it has had regional leadership over the past few decades: the environment.

Conclusion

This chapter has used archival records and secondary sources to show how Costa Rica came to have the small size, egalitarian agricultural economy, good governance, and dominant environmental INGO presence that characterize carbon neutral pledging nations. It also drew upon interview data to illustrate how people talk about these four factors. The results show that the country’s history as a small, isolated, densely tree-covered place with few native indigenous people and no major natural resources that could be extracted left the Spanish relatively uninterested in Costa Rica. The geopolitical isolation that resulted from these factors profoundly influenced the historical trajectory of the country. Before 1900, the Costa Rican government had divided publically held land
into privately-held small land divisions. At this time, the state also outpaced its neighbors in investment in human development, specifically by investing in education. While the development of the coffee economy in Costa Rica in the early to mid 1900s did not lead to an egalitarian paradise, it did create an economy in which many small landholders produced coffee and in which the elite class that did exist was an elite based on the commercial aspects of coffee, not on landownership. This is a significant difference from other Central American countries, and led to a blurring of severe class divisions. Costa Rica’s proximity to the proposed canal site, combined with its burgeoning coffee economy and tropical forests made Costa Rica a magnet for scientists, and history shows that many of these scientists stayed (perhaps longer than initially anticipated) to do their work and establish civil society organizations. The settlement of the Civil War, combined with the abolishment of the weak army, bolstered the trajectory of the country’s good governance. Oscar Arias’s Nobel Peace Prize further cemented the country’s position as the poster child of peace, and led to the rapid expansion in nature-based tourism.

The QCA results from Chapter 3 showed the most support for the state-in-society (Migdal 2004) dynamic by illuminating the domestic forces that push and pull states to engage in certain activities, such as pledge making. We should recall, however, that this approach to studying nation-states is not without its shortcomings. The part of the theory that explains the origins and interconnections between the societal forces that push states to act in particular ways is underdeveloped. Here, the close, historical look at how Costa Rica has maintained a small population, and how it came to have the egalitarian class structure, good governance, and dominant presence of INGOs fills in our understanding
of how Costa Rica came to have a state-in-society dynamic that is conducive to pledge making.

The historical trajectory described above illustrates the way in which size and class structure provided the means by which Costa Rica developed good governance. A small population that has always been concentrated in the major cities of the fertile central valley, combined with geopolitical isolation, and a nearly two centuries-long relatively egalitarian agricultural economy have led to several outcomes in Costa Rica’s history that embody good governance and the generous provision of public goods. These outcomes include early investments in education, the development of a social security system, the abolition of the army, the development of the national parks, the PES legislation, and the regional peace effort in the mid-1980s. This historical analysis also shows how good governance was pivotal in attracting scientists to Costa Rica and creating opportunities for their involvement in civil society and in allowing representatives from global civil society to have a seat at the table of Costa Rican politics. Based on this trajectory, it seems that the carbon neutral pledge is another example of Costa Rica’s interest in taking on iconic environmental initiatives and is another embodiment of Costa Rica’s interest in showing the world its good governance. The carbon neutral pledge reinforces (to a global audience) that Costa Rica is the kind of place that takes care of its people and the planet.

This historical chapter has explained the origins and interconnections of the societal forces that have pushed Costa Rican elites to provide generous public goods to their citizens, thus filling in some of the under-theorized components of the state-in-society (Migdal 2004) approach. The following chapter builds upon this historical
narrative by using interview data to explain the step-by-step process that led up to the public commitment of carbon neutrality.
Chapter 5: Narrative explanation of pledge making process

The previous chapter drew upon the insights from the QCA to explain how Costa Rica came to have the conjuncture of conditions that incline a country to make a pledge. This chapter has two goals. First, it provides a chronological description of the process that led up to the announcement of the pledge in Costa Rica. Second, the chapter concludes with an explanation of this process, which includes a discussion about how the pledge is an example of iconic action. This chapter draws upon archival research and qualitative data collected through interviews with leaders in government, science, industry, and civil society in Costa Rica. The following chapter addresses the question of whether the carbon neutrality pledge in Costa Rica was just green washing. Carbon neutral pledges are easy to promise, but may be difficult to follow up on, so the next chapter addresses this issue.

1990: New leadership, new directions

Building on concerns about deforestation in the 1970s and 1980s, the issue of sustainable development came to the fore in the political discourse of the early 1990s. Later in the same decade, discussions about anthropogenic climate change became of primary concern. The most iconic event of Oscar Arias’s first presidency (1986-1990) was his Nobel Prize win in 1987 for leading a peace negotiation process in Central America. As discussed in the previous chapter, this event was followed by a massive rise in the number of international tourists into Costa Rica. As stipulated by Costa Rican law, a president cannot hold two consecutive terms, so in 1990, Rafael Calderon succeeded Arias as the next president of Costa Rica (1990-1994).
In 1990, in a speech in a national theater in San Jose, Calderon called for a “new ecological order.” In the speech, Calderon, outlined 18 points to facilitate a global approach to improving humanity’s respect for the environment (Calderon Fournier 1990). Many of these points are related to building better channels of international cooperation to facilitate actions related to environmental protection. After explaining the points of his “new ecological order,” Calderon explained that through executive decrees, the government created the “Ecological Commission for the Application and Promotion of a New International Order” and the “Presidency Consulting Commission on Environment” (Calderon Fournier 1990: 10). This Ecological Commission was comprised of four people, three from the Ministry of Exterior Relations and Culture and one from the Ministry of Natural Resources, Energy, and Mines (SCIJ 1990). This commission had the following “functions” (SCIJ 1990): 1- Promote the New International Ecological Order as the priority objective of the Government of the Republic; 2- Solicit technical opinions/criteria from public and private institutions related to the subject matter of the commission; 3- Recommend directives and national plans in the different international forums that deal with environmental issues; 4- Solicit reports from functionaries who assist in the representation of our country at seminars and international conferences related to the environment; 5- Recommend the subscription, ratification, or joining of Costa Rica to the International Conventions that exist on the environment15.

15 “(a) Promover el Nuevo Orden Ecológico Internacional como el objetivo prioritario del Gobierno de la República.) (b) Solicitar criterios técnicos a las instituciones públicas y privadas relacionadas con la materia motivo de su existencia.) (c) Recomendar directrices y planteamientos del país en los diferentes foros internacionales en donde se trata el tema del medio ambiente) (d) Solicitar informes a los funcionarios que asistan en representación de nuestro país a seminarios y conferencias internacionales relacionados
Although the decree to create this commission was revoked in May 1994 (for reasons that are unclear), Calderon’s speech “surprised conservationists since in none of his three campaigns for president had he ever given much attention to environmental concerns,” (Evans 1999: 169). (He won in 1990 after two unsuccessful tries in the 1980s.) President Calderon represented the PUSC (Partido Unidad Social Cristiana), or the Social Christian Unity Party. PUSC is the more conservative of Costa Rica’s two main political parties, while the PLN (Partido Liberacion Nacional) is the leftist party. Although, as respondent #9 explained, environmental leaders tend to have more connections with the PLN party, than with the PUSC, it was under Calderon’s leadership that these changes in the early 1990s happened. It is not, of course, unprecedented for pro-environmental rhetoric and actions to happen under conservative leadership. The changes that happened under Calderon are reminiscent of changes that happened under Nixon in the first wave of environmental legislation (i.e., the Clean Air Act and the Clean Water Act) in the U.S. in the early 1970s.

1992: The Earth Summit

At the United Nation’s Earth Summit in June 1992, Costa Rica became party to the United Nations Framework Convention on Climate Change (ENTRI 2008) and the Convention on Biological Diversity. Costa Rica also supported Agenda 21, an international plan for national governments to work toward sustainable development (Kubiszewski and Cleveland 2012). In response to the convention at Rio, the National Institute of Meteorology in San Jose did its first national inventory of greenhouse gas...

During the Earth Summit, the late Maurice Strong, the first executive director of UNEP and leading force in both the 1972 and 1992 Earth conferences, was in conversation with President Calderon about making Costa Rica the host country for the Earth Council. As Strong later recounted, the idea of the Earth Council was to, “set up a new global, non-governmental body - which I called an Earth Council - with the goal of activating and servicing a network of NGOs and citizen groups committed to implementing the results of the Earth Summit-co-operating rather than competing with existing organizations” (Strong 2009-2012). Strong was interested in establishing this Earth Council in a country in the developing world that had fewer “resources or international ties” that they could draw upon for support in responding to the issue of climate change. As he put it, “I wanted to make a clear exception to the vast majority of international NGOS, almost all, headquartered in, and dominated by, the more developed countries,” (Strong 2009-2012). To Strong, Costa Rica seemed an “obvious choice,” because of his own ties to the country and the state’s position as an “environmental leader.” Strong also recounted that then President Calderon (1990-1994) had given a speech in 1990 about the need for a “new ecological order,” and thus seemed committed to fostering Costa Rica’s leadership in environmental issues. Calderon agreed to make Costa Rica the host of the Earth Council, which meant that the country would house an office that tracked and encouraged the work countries began on sustainable development
at the Earth Summit (Evans 1999:171-174). It was announced at the summit that Costa Rica would take on this role.

The decision to locate the Earth Council in Costa Rica and Costa Rica’s signature on the UNFCCC and the CBD were not the only ways in which Costa Rica changed profoundly as a result of this summit. At the summit, the Netherlands began to draft a sustainability treaty, the purpose of which was for the Netherlands to pursue its own sustainable development projects, while funding sustainable development projects in developing countries (Glasbergen & Miranda 2003). The Dutch selected countries to work with that were about the same size (in terms of population or territory) as the Netherlands, politically stable, building democratic institutions, and committed to sustainable development and nature conservation (Glasbergen & Miranda 2003: 2). The “statement of intent” for these bilateral agreements was signed during the Rio summit (Glasbergen & Miranda 2003: 2). “From the outset, Costa Rica seemed to be a good choice,” as it fit the model (Glasbergen & Miranda 2003: 5).

While it took a few years to develop a mutual understanding of what the treaty entailed in the two countries, and to build the capacity to manage new projects, the treaty had long-term effects on Costa Rica. First, from 1999 onward, 62 new projects to promote sustainable development began as a result of the treaty with the majority of them in Costa Rica (as opposed to the Netherlands). These projects pursued a diverse array of tasks, including promoting agro-biodiversity and involving local Costa Ricans in ecotourism opportunities (Glasbergen & Miranda 2003: 10).

Second, and perhaps more closely related to the carbon neutrality issue, is that the work on the treaty profoundly changed the way people from across sectors in Costa Rica
interact. At the beginning, there was little collaboration and mutual agreement on sustainable development across sectors. Glasbergen and Miranda (2003: 6) write that at this time (1992-1996), there was “virtually no tradition of communication across sectors” in Costa Rica. Any efforts to foster this communication were “tedious.” For example, while the Netherlands wanted an array of Costa Rican universities to be involved in the treaty, the Costa Rican government resisted that idea and only brought in “a few insignificant private universities to take part in the consultation,” (Glasbergen and Miranda 2003: 6). Interestingly, the early 1990s was a period of growth and expansion in many Costa Rican universities. Many universities began programs of study in environmental studies and forestry and many researchers “participated actively in international research programs” with researchers from Germany, the UK, Denmark, Switzerland, and Norway (Miranda et al. 2006: 564). There were also numerous efforts to spur the study of environmental issues in Costa Rica, such as the Center of Political Economic Investigations (CINPE) at the National University of Costa Rica. This group introduced the idea of environmental studies at the graduate level and also advocated for the idea of discussing environmental protection hand-in-hand with public policies. Also, in 1990, Earth University a private institution with a focus on agronomy that provides scholarships to students from around the world, welcomed its first class of students. Despite this burgeoning of concern with environmental issues in institutions of higher education in Costa Rica, they were not yet broadly invited in by government to be part of the national effort on sustainable development. Also, during the mid-1990s, NGOs were “hardly organized,” and thus were also largely excluded from the negotiating process. The only sector that was organized at the time was the private sector, since “businesses
are represented by the chamber of commerce,” (Glasbergen and Miranda 2003: 6). Although industry was the most organized sector, even it was not promoting pro-environmental initiatives on its own or through work with people in other sectors.

According to the authors, however, the process of working on the treaty changed the way in which people across sectors in Costa Rica communicated. This mutual cooperation stems in part, at least, from the organization of Fundecooperación, a foundation created by the Costa Rican government in the mid-1990s that went through various processes of reorganization and reform. Fundecooperación reviews applications from groups that submit proposals to take on sustainable development changes and decides whether to fund them. Once Fundecooperación was reorganized, “all of the sectors involved… believed that the situation was now manageable… The Costa Rican counterpart had built up an institutional capacity that was mature enough to manage a process of change as complex as the one they were facing,” (Glasbergen and Miranda 2003: 10). Unlike prior processes of reform for the foundation in which the Dutch embassy was more involved in the foundation (Glasbergen and Miranda 2003: 10), in the post 1998 era, the foundation was more independent and this triggered more collaboration and agreement across sectors. The authors write that, “Partly as an effect of the treaty, a large number of NGOs have joined forces in an organization. In the private sector, the issue of sustainable development has been placed on the agenda. The Chamber of Commerce has strengthened the position of its committee on environmental issues. Now, the sectors recognize that together they can also wield a significant amount of power… Together, they take a unified stance in order to get their message across to a wider audience: and their message is that activities to promote sustainable development
are important. Members of the sectors have learned that mutual cooperation is a critical element in that effort,” (Glasbergen and Miranda 2003: 12).

The events that transpired at the Rio Summit in 1992 are related to the carbon neutrality pledge in three key ways. First, the conference signaled the start of the collection of GHG emissions data in Costa Rica and the same office that started collecting these data after the Rio summit was the same office that provided data on emissions that were consulted before the carbon neutrality pledge was announced. Second, Costa Rica was selected as the home of the Earth Council at the summit, which fostered more international exposure for the country. Third, the sustainability treaty that was signed between the Netherlands and Costa Rica at the conference changed the way in which people across sectors in Costa Rica communicate with each other. People in diverse sectors cooperated more after a few years working on the treaty than they did before the treaty. In this way, the bilateral agreement prompted a kind of strategic action coalition (Fligstein and McAdam 2012). This matters for understanding the carbon neutrality pledge because the group that formed the pledge was another kind of strategic action coalition that brought together people who had ties to or currently served in government, industry, science, and civil society.

1993: Tourism boom

In 1993, the year after the Rio summit, tourism surpassed traditional exports, such as coffee and bananas, to become the industry that contributed the most to the economy (LePree 2008/9: 62). The number of foreign visitors travelling to Costa Rica more than doubled between 1989 and 1994 (Honey, Vargas, and Dunham 2010: 16). “This growth,”
they find, “was predominantly in ecotourism,” (Honey, et al. 2010: 16). Costa Rica’s “style of ecotourism was largely homegrown, based on its outstanding network of public and private parks, as well as its relatively good infrastructure, large middle class, well educated and healthy work force, and stable, democratic government,” (Honey, et al. 2010: 16).

While the initial wave of tourists in the early 1990s can be characterized as serious nature or eco-friendly tourists, over the next two decades this segment of tourists expanded to include people who, while still interested in nature, prioritize getting good service and relaxation (Honey et al. 2010: 67-8). In response to these changing tastes, the tourism industry adapted by creating more high-end resorts that include “a wide range of self-improvement or soft adventure activities, and customized tours,” (Honey et al. 2010: 68). Reporting on data collected by the Costa Rican Institute of Tourism (ICT), Honey et al. (2010: 68) report that the “majority of potential travelers to Costa Rica are affluent and educated people who tend to prefer unique local accommodations over full-service hotels.” Most of these people want to avoid staying in all-inclusive resorts.

As part of this ecotourism boom of the early 1990s, many hotels in Costa Rica began to make claims about how “eco” sensitive they were (LePree 2008/9: 62). In 1995, officials at the Costa Rican Institute for Tourism (ICT) began to work on a national plan to ensure there was national uniformity in hotels’ levels of sustainability. By 1997, the ICT had created the Certification for Sustainable Tourism (CST), a “national voluntary certification for lodging establishments” (LePree 2008/9: 62). The program works to assess the economic, environmental, and social effects of a hotel (Honey et al. 2010). The CST has a rating system of five “leaves,” and the number of leaves that a hotel can earn
has to do with its performance on CST’s four indicators: physical-biological parameters, infrastructure and services, external clients, and socio-economic environment. The program got off to a slow start because of financial constraints and bureaucratic delays, but the program received a boost in financial support in 2005 and the government’s support for the program continued during the second Arias presidency (2006-2010) (Honey, et al. 2010: 55). By 2007, ten years after it was created, 84 hotels had participated (LePree 2008/9: 62). As respondent #14, a manager of a hotel in San Jose explained, CST is a program that almost every hotel in the country participates in. As he put it, it’s not required but there are major benefits from participating in it. According to the CST website, as of 2015, 230 hotels participate in the certification program and are spread across the 5 “leaf” levels (1- 23; 2- 57; 3- 64; 4- 45; 5- 41) (CST 2014). Like the CST program, carbon neutrality is another voluntary certification program that individual businesses have the option to pursue.

1994: Regional response to sustainable development

In 1994, the Presidency shifted back to the liberal PLN party with the victory of Jose Maria Figueres Olsen. Figueres Olsen is the son of Jose Figueres Ferrer, who was involved in ending Costa Rica’s civil war and who led the 18-month military junta following the political settlement to end the war and of Karen Olsen de Figueres, a prominent advocate for the development of the national parks in the 1970s (Evans 1999). Figueres Olsen is also the brother of Christiana Figueres, who by 1994 was becoming her own kind of politician. Christiana Figueres had served in the Ministry of Planning and the Ministry of Agriculture in the late 1980s before becoming a member of Costa Rica’s
climate change negotiating team in 1995 (UNFCCC 2014c). That same year, she founded the Centre for Sustainable Development of the Americas in the US, a non-profit organization (UNFCCC 2014c). In this role, she “designed and helped to establish national climate change program throughout Latin America and served as high level advisor to both governments and private companies,” (Figueres 2013). Christiana Figueres has maintained a leading role in international climate politics, as she has served as the executive secretary of the UNFCCC since 2010.

Under Figueres Olsen’s presidency, regional efforts to address sustainable development, likely building on the enthusiasm about sustainable development from the two prior years, ramped up. In November 1994, the presidents of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama and the Prime Minister of Belize came together in Nicaragua to sign onto a plan to promote sustainable development in the region. The first five of these countries were members of SICA, the Central American Integration System that formed in 1991 to promote democracy and human rights throughout the region (Central American Integration System 2013-2015). Belize and the Dominican Republic joined SICA in 2013.

The plan that these countries signed in November 1994 was called ALIDES (Alianza para el Desarrollo Sostenible de Centro America), or the Alliance of Sustainable Development in Central America. In the ALIDES (1994: 2) plan, the governments of Central American countries specify that they hope the plan of actions they outline to move toward sustainable development will convert them (the countries) “into a model for other regions” (“con las cuales aspiramos a convertirnos en un modelo para otras regiones”). Building on Oscar Arias’s rhetoric about debt-for-nature swaps (described in
the previous chapter) and Calderón’s push for more international cooperation (described above) to facilitate environmental protection in places like Costa Rica, the member countries called upon the international community to support Central America’s efforts to address sustainability, saying that “the international community can and should contribute to sustainable development in Central America” (“la comunidad internacional puede y debe contribuir al desarrollo sostenible centroamericano”) (ALIDES 1994: 2). The members of SICA use ALIDES to define sustainable development, outline seven principles to achieve sustainable development, list the objectives of ALIDES, and sets up the organization of two “councils” (“consejos”) for sustainable development. The first are national councils, which will work in each of the signatory countries to promote sustainability at the national level. SICA also created a regional council called the Central American Council for Sustainable Development. This council is comprised of the presidential signatories of ALIDES and it is their responsibility to make decisions about sustainable development and ensure the participation of civil society in the process.

One interviewee, a professor in the Department of Government and Public Policy at the University of Costa Rica, respondent #9, said that in the ALIDES document, every signatory country outlined its own plan for achieving sustainable development and that the goals for Costa Rica were pretty easy for the country to meet because it was starting from an advantage already. However, upon closer inspection, there is no part of the ALIDES document in which countries outline their individual plans. This comment may be a reflection of a type of Costa Rican exceptionalism, though it is not clear. Overall, the document outlines commitments that appear to be more rhetorical in nature, except for the creation of the national and regional councils described above.
According to Segger and Gift (2012: 455), ALIDES “was the first major initiative in the region to establish a comprehensive initiative to address sustainable development in Central America. It established a framework for regional action, eventually leading to the development of the Central American Commission for Environment and Development (CCAD), which is the implementing body for the ALIDES and represents the environmental arm of the regional integration body known as the Central American Integration System (SICA).” According to Maurice Strong (2009-2012), Costa Rica’s role as the host to the Earth Council allowed the Earth Council to be “active in Central America.” One way in which the council was active was that it encouraged the establishment of the ALIDES document, which Strong called the “first of its kind in the world.” So the ALIDES document, like the Earth Council before it, and the carbon neutral pledge after it, is another example of iconic, pro-environmental initiatives that Costa Rica has taken on and that has been recognized by leaders in the global community. Both the establishment of SICA and the production of the ALIDES document are part of series of efforts during the 1990s that Bull (1999: 960) refers to as the “revival of the Central American integration process.”

1995-1996: Birth of the carbon market

After 1992, things started to change in Costa Rica as a result of the country signing the UNFCCC. The UNFCCC introduced the idea of Activities Implemented Jointly (AIJ) (Miranda et al. 2004: 12). This is the “international mechanism that allows companies or agencies in industrialised countries to invest in projects in developing countries that reduce emissions of greenhouse gases,” (Miranda et al. 2004: 12). In
March–April 1995, the first Conference of Parties to the UNFCCC meeting was held in Berlin. Here, the parties agreed on the Berlin Mandate. The goal of the mandate was to strengthen commitments from Annex I parties in order to meet the goals outlined in the UNFCCC (UNFCCC 2014). The mandate initiated a pilot phase for activities implemented jointly, as outlined in Article 4.2(d) of the UNFCCC (UNFCCC 1995: 18).

According to Rojas (2004: 299), “Straight away Costa Rica got fully involved in the pilot phase” for activities implemented jointly. Almost immediately (by July 1995) the Costa Rican office on joint implementation activities (OCIC) opened and started to work on projects. The first sector that Costa Rica developed AIJ projects in was forestry; the country later developed projects in the areas of renewable energy and coffee (Miranda et al. 2004: 12-13; UNFCCC 2002). Table VI includes a list of AIJ projects that took place in Costa Rica and includes the activity type, investor country, lifetime, GHG impact, and starting date for each project.
Table VI: AIJ Projects in Costa Rica

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Activity Title</th>
<th>Parties Involved (Host/Investor)</th>
<th>Lifetime (years)</th>
<th>GHG impact (CO₂ equivalent in metric tons)</th>
<th>Project starting date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest preservation</td>
<td>ECOLAND: Piedras Blancas National Park</td>
<td>Costa Rica, United States</td>
<td>16</td>
<td>1,342,733</td>
<td>January, 1995</td>
</tr>
<tr>
<td>Forest reforestation</td>
<td>Klinki Forestry Project</td>
<td>Costa Rica, United States</td>
<td>46</td>
<td>7,216,000</td>
<td>June, 1997</td>
</tr>
<tr>
<td>Forest reforestation</td>
<td>Reforestation and Forest Conservation</td>
<td>Costa Rica, Norway</td>
<td>25</td>
<td>230,842</td>
<td>March, 1997</td>
</tr>
<tr>
<td>Fugitive gas capture</td>
<td>Methane Emission Reduction at Wastewater Treatment Plant in Coffee Mills</td>
<td>Costa Rica, Netherlands</td>
<td>10</td>
<td>122,415</td>
<td>August, 1997</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>Aeroenergía S.A. Wind Facility</td>
<td>Costa Rica, United States</td>
<td>20</td>
<td>36,194</td>
<td>September, 1996</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>Doña Julia-Hydroelectric Project</td>
<td>Costa Rica, United States</td>
<td>15</td>
<td>210,566</td>
<td>October, 1996</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>Plantas Eólicas S.A. Wind Facility</td>
<td>Costa Rica, United States</td>
<td>22</td>
<td>222,537</td>
<td>January, 1995</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>Tierras Morenas Windfarm Project</td>
<td>Costa Rica, United States</td>
<td>14</td>
<td>57,203</td>
<td>September, 1997</td>
</tr>
</tbody>
</table>

The first AIJ activity happened in 1996 between Costa Rica and the government of Norway and it involved forest conservation (Miranda et al. 2004). The OCIC office issued Certified Tradable Offsets (CTOs), the commercialized units of carbon dioxide.

---

16 Source: UNFCCC (2002).
17 Some of these projects had various starting dates listed. When that happened, the earliest starting data was included in the table.
and Norway bought the first CTOs Costa Rica had for sale. “Norway provided an initial payment of US$2 million in 1997 for 200 million tonnes of CO₂ equivalent offsets” (Fletcher 2013: 158). As Miranda et al. (2004: 12-13) write, “Norway bought 200,000 hectares of Costa Rican tropical forest for US$2 million for the purpose [of] carbon storage.” They bought 200 tons of carbon at US$10/ton C (US$2.70/t CO2) = $2 Million (FAO 2001). With this money, “Norway bought 200,000 hectares of Costa Rican tropical forest… for the purpose of carbon storage,” (Miranda et al. 2004: 12-13). Costa Rica then “used this money to implement a programme called the Environmental Improvement Project whose objective was to contribute to the environmental improvement of the Virilla watershed,” (Miranda 2004: 13). This particular watershed is vital for the production of hydroelectric energy and watershed supplies (Miranda 2004: 13). Costa Rica was “the first country to trade CTOs in international markets” (Miranda et al. 2004: 12). As respondent #12, an environmental consultant to the government explained, at this time there were no metrics but this was the beginning of payments for environmental services. This was the beginning of the idea that carbon has to enter the market.

While the government of Norway made the initial financial contribution to the Costa Rican government, the government of the Netherlands also became involved with the program. The goal of this project with the Netherlands was to reforest one thousand hectares and conserve 3,000 hectares of existing forest (Rojas and Aylward 2003: 25). According to Rojas and Aylward (2003: 26), “A commercial reforestation project on land belonging to the Earth University was the core component of this project. Earth received funds from the municipality of Rotterdam in the Netherlands.” Earth planted trees on abandoned banana plantations. “Carbon credits for 5,000 mt of C during the lifetime of
the project (20 years) were sold for $400,000 to the municipality of Rotterdam,” (Rojas and Aylward 2003: 26). In explaining why he thought the Netherlands had partnered with Costa Rica on this project, the Director of the carbon neutral program at Earth University, respondent #10, said Costa Rica is “one of the most open countries for this” (“uno de los países más abiertos para esto,”). He elaborated by saying that by this point (mid to late 1990s), Costa Rica had already started to work on issues of sustainable development. He added that Costa Rica has political, economic, and social stability. So both the country’s prior experience working on sustainable development issues and its stability makes it the kind of place that is amenable to and a good choice for these kinds of bilateral agreements. In other words, this person reflected on how Costa Rica’s history of good governance (political stability) and egalitarian class structure (economic and social stability) enabled the country to be a good host to bilateral mitigation projects.

This section shows that Costa Rica was an early leader with jointly funded mitigation projects. According to (Rojas and Aylward 2003: 21), the “AIJ projects in Costa Rica preceded the Kyoto Protocol and were among the first project proposals globally designed to mitigate climate change through innovative mechanisms.”

1996: Voluntary, domestic environmental programs

Following this initial, international carbon transaction, two domestic environmental programs were created. One was the Blue Ecological Flag Program (“El Programa Bandera Azul Ecologica [PBAE]”), which was created in 1996. Like the ICT’s Certification for Sustainable Tourism (CST) program described above, the Blue Ecological Flag program is another voluntary, government-run program to encourage
sustainability (Honey et al. 2010: 54). A combination of people from the Water and Sewer Institute (AyA), the Costa Rican Institute of Tourism, as well as people from other government departments, scientific consultants, and lawyers run the program (Honey, et al. 2010: 54, Jorge Polimeni). The group created the program in response to the “imminent dangers of beach pollution and its impact on public health and the tourism industry,” (Honey et al. 2010: 54). Following a model of a similar program from Europe, the program awards one to four stars to beaches, depending on how well they meet certain criteria for water quality, pollution, etc. (Honey et al. 2010: 54). Beach communities that voluntarily promote conservation, the protection of natural resources, actions to combat climate change, improving sanitary conditions, and improving public health are awarded a blue flag. Communities must be approved every year to keep the flag and they can lose it if their standards drop. Presently, the Ecological Blue Flag program derives its leadership from people in various government ministries and other departments, public agencies (i.e., Costa Rican Institute of Tourism), private industry chamber groups (i.e., CANATUR), and domestic NGOs. The carbon neutrality efforts are reminiscent of the Blue Ecological Flag program. Again, they are both government-initiated, voluntary programs that require communities (or businesses) to be assessed annually to either compliance with the standards or to have the symbol (Blue Flag or Carbon Neutrality stamp) revoked.

Also in 1996, the government added an addendum to the 1969 Forestry Law, which created the payments for environmental services program (Miranda et al. 2006: 565). As described in the previous chapter, this program pays landholders if their land provides one of four services, one of which is the mitigation of greenhouse gases (Pagiola
2006). According to Fletcher (2013: 158), while carbon sequestration is not the only service for which landholders can be compensated, this program was the country’s “first concerted effort to conjoin forest policy with the growing global effort to address anthropogenic climate change.”

1997: The Kyoto Protocol

By the time the Kyoto Protocol was drafted in 1997, a number of things had happened in Costa Rica that set the state up to be in favor of a market-based approach to dealing with climate change. First, Costa Rica had already entered into a partnership with the Netherlands, and so had experience with bilateral arrangements to foster pro-environmental change in the country. Second, the country wasted no time starting joint implementation activities during the pilot phase (which began in 1995), as demonstrated by the results in Table VI. By the time of the Kyoto Protocol, Costa Rica had experience selling carbon and working in the areas of forestry, coffee, and renewable energy. Third, in 1996, Costa Rica started a payments for environmental services program, which compensated landowners for the services (including carbon sequestration) that their land provided. The succession of these events meant that by the time of the Kyoto Protocol, Costa Rica was a supporter of and had experience with market-driven approaches to tackling environmental issues. In other words, by the start of the negotiations in Kyoto, Costa Rica had fairly extensive “project-based experience” with activities implemented jointly to reduce emissions (Rojas 2004: 299, see also Schwarze 2000: 265). Costa Rica had partnered with Norway, the Netherlands, and the US in AIJ programs.
Given the array of actions the state had pursued over the previous five years, it makes sense that the government “was very fond of the market and project-driven approach” and that the “national delegation strongly supported the introduction of flexible mechanisms” in the Kyoto Protocol (Rojas 2004: 300). Costa Rica signed the Kyoto Protocol as a non-annex 1 country in April 1998 and ratified it in April 2002 (UNFCCC 2014h). The Kyoto Protocol “established explicit and mandatory limits” on the emissions of Annex 1 countries and it outlined three flexible mechanisms wealthy countries could use to meet their emission reduction target goals (Miranda et al. 2004: 6). Under the Kyoto Protocol, Annex 1 countries can meet their targets for emissions reductions via three market-based mechanisms of: international emissions trading, clean development mechanism (CDM), and joint implementation (JI) (UNFCCC 2014g). Costa Rica had a national representative on the executive board of the CDM who attended the board’s first meeting in 2001 (UNFCCC 2001) and the country has a permanent seat on the executive board (Miranda et al. 2004:12).

As respondent #15, a scientist who has represented Costa Rica at past Conference of the Parties meetings, said, the Kyoto Protocol was viewed as a “failure” in Costa Rica because large industrialized countries, including the US and Australia, did not fulfill their commitments. He thought that out of the failure of Kyoto grew the idea that Costa Rica had to do something on its own and push others to do the same. Another scientist and civil society activist, respondent #12, lamented that nothing ever happens at the global level, but did not think that inaction at the global level spurred Costa Rica to do something on its own.
On May 22, 1998, by executive decree 26964-MINAE, the government created a national climate change consultative commission (MINAE 2015). This “working group” was tasked with “the objective of coordinating at the national level the efforts to confront climate change” (Rojas 2004: 298). In the country’s first national communication to the UNFCCC in 2000, the government describes this commission as being responsible for “arranging and maintaining a permanent dialogue between all sectors of society, on the politics and measurements of climate change mitigation and adaptation,” (Republica de Costa Rica 2000: iv). However, by 2004 the commission was no longer active (Rojas 2004). The creation of this commission is another example of a government-led coalition, like that which President Calderon created after outlining his “new ecological order” in 1990. The Peace with Nature coalition, which crafted the carbon neutrality pledge, is another example of this kind of temporary, government-created, and inter-agency coalition.

*Early 2000s*

Interviewees did not have much to say about events leading up the carbon neutral pledge from the early 2000s. However, in the early 2000s, the Laboratory of Environmental Analysis (Laboratorio de analisis ambiental) at the National University began to release a series of reports about air quality, first focusing on air quality in San Jose before researching air quality throughout Costa Rica’s larger metropolitan center. In June 2004, researchers at the Lab released their first report on air quality in San Jose called, “Quality of Air in the Capital from 1993-2003” (Rodriguez y Herrera 2004). This was followed by second, third, and fourth reports on San Jose’s air quality, with the
fourth one published in 2007. This first report provides an overview of the environmental contamination in San Jose’s air (Rodriguez y Herrera 2004). These reports laid the foundation for concern about hazardous environmental consequences that would grow throughout Oscar Arias’s second term (2006-2010).

2006: Peace with Nature

Before there was carbon neutrality in Costa Rica, there was the idea of creating “Peace with Nature.” Oscar Arias began his second presidential term in May 2006 and before the end of the year, his government started to work on this idea. According to respondent #15, who became the leader of the Peace with Nature political coalition, the idea of establishing peace with nature originated with the late Alvaro Ugalde, former head of the country’s national parks system. Arias was named the Minister of Planning in 1972 under President Jose Figueres Ferrer (1970-1974) and remained there through most of President Daniel’s Oduber’s presidency (1974-1978), but left in 1977 (Encyclopedia Britannica 2015). Ugalde became the head of the national parks department in 1974 when Mario Boza stepped down. At this time, the national parks were still under the jurisdiction of the Ministry of Agriculture and Livestock (Evans 1999: 56). As respondent #15 explained, this was a “bad deal” for the parks and a committee was assembled to figure out what to do with them. Arias was part of this commission and that was how he met Alvaro Ugalde. So Oscar and Alvaro were in the same circles during the mid-1970s and had been friends since then. According to respondent #15, in 2006, Alvaro met Arias on a plane and said to him, “you know, you brokered peace in Central America” during your first presidency. “Why not broker peace with nature during your
second?” Apparently, that was all it took for the idea of peace with nature to take off, as Arias agreed to the idea.

In interviews, people described Oscar Arias as charismatic. As respondent #15 put it, “He likes daring stuff.” The director of the carbon neutrality program at Earth University, (respondent #10), echoed this by calling Arias an “audaz,” (daring, bold) political figure. As he explained, Arias knows both the global political movements and how people act in Costa Rica very well. He even said that Arias’s combination of these two things makes him nervous (“a mí, me da temor”). While this may have been a reflection of his personal political ideology, he explained that Arias knows how to “engaña” (“trick”) the public, and that the public goes along with it. He added that during both of his presidencies, Costa Rica has been in debt. Respondent #9 also portrayed Arias as a charismatic figure, but did so by drawing upon his good, rather than bad, qualities. He explained, for example, how easy he is to get along with. As he put it, “si le cae bien,” or if he likes you, he can talk with you for hours. He added that Oscar has a great ability to pick good people. As he put it, he picks people who are going to get stuff done, not just because he likes them. He can recognize the possibility in a person. He made this point when discussing Arias’s section of his vice-minister of the environment during his second term, Jorge Rodriguez who became a key member of the Peace with Nature coalition.

There was a shared sentiment that with the Peace with Nature coalition, Arias was trying to “recreate this era of peace” (“recrear esta epoca de paz”) that existed during his first presidency. As respondent #9 explained, Arias’s Nobel Peace Prize changed the way Costa Ricans saw themselves and changed the way other people in Central America viewed Oscar Arias. In short, many people did not like Arias after he won the prize, since
they thought multiple Central American presidents should have won the award, rather than just Arias. As an author of the plan, respondent #18, put it, in the background, Arias was trying to use the carbon neutral pledge to create another reason for Costa Rica to be recognized at the global level. In other words, the carbon neutral pledge could reinforce Costa Rica’s iconic image at the global level. In the final section of this chapter, we will return to this idea of iconic actions. There was agreement among interviewees that the idea of carbon neutrality did not originate with Arias. He was “key” as one person put it, but did not create the idea. As another person put it, he knows a lot, but policy about climate change is not his specialty. Respondent #11, author of the national strategy on climate change and government consultant from the UCR, said it was not difficult to get Arias on board with the idea of carbon neutrality (“no fue dificil comprometerse”). He recalled a saying, “it does not matter who the dad is if the son is a go-getter” (“no importa quien es el papá, si el hijo es exponente”), and said that this characterized how carbon neutrality worked at the highest political levels.

Ugalde and Arias brought in Pedro Leon. Leon started working on the Peace with Nature coalition in January 2007 (TEDxPuraVida 2010-2015). Leon and Ugalde knew each other already (they are both UCR-trained biologists), and Ugalde told Arias that Pedro would lead the commission on carbon neutrality (before asking Pedro). Pedro agreed to do it, and with that the Peace with Nature coalition had a leader who would report directly to the president. At the time, Pedro, who is trained as a molecular biologist, was a faculty member at the UCR. Prior to joining Peace with Nature, Pedro was working at CeNAT (Centro Nacional de Alta Tecnologia), or the National Center of High Technology where he had been working on setting up labs in the country, including
the country’s first nanotech lab. When he joined the Peace with Nature coalition, Pedro said his research was not related to climate change. He had done research on how deafness can be passed down genetically, but at the time (late 2006) he was studying bipolar disease. But he didn’t seem to think that it was a problem that, at the time Peace with Nature started, he wasn’t researching climate change. As he put it, “you have a responsibility when you know.” He said, in this way, Costa Rica is different from the US. In the US, you focus, you get specific. In Costa Rica, it’s “almost a laboratory” where you can do different things. He added that Costa Rica is “so small, that you can do things if you’re [a social group] organized.” He added that it’s easy to exercise leadership in Costa Rica and this is especially true when you have a high level of education and when you’re bilingual (like he is).

Pedro’s reflection about Costa Rica being so small that people can achieve specific outcomes if they are organized reinforces the importance of why scale matters in understanding the kinds of states that make carbon neutrality pledges. Members of smaller groups feel that they have greater agency over the decisions that are made, so they tend to dedicate themselves more to the issue at hand (Olson 1965:53). Also, in a smaller group, “some or all of its members will have an incentive to see that it does not fail. This is not true of the large group,” (Olson 1965:57). Ostrom (2009:421) adds that smaller groups are more inclined to collectively govern shared resources than are larger groups. So in short, with its relatively small population and geographic area, combined with the circulation of elites through the sectors of government, NGOs, and universities, Costa Rica is a place where groups can mobilize quickly to achieve a shared outcome.
When Pedro was appointed as an advisor to the president, he asked the council of rectors (a governing council for the four public universities of Costa Rica) for a permit to leave his post at the UCR. He also asked them to pay him his salary, so that the government would not have to pay him. The council of rectors agreed, and not only let Pedro temporarily leave his faculty job at the UCR but also paid him to advise the president on environmental issues. While working on Peace with Nature, he had no formal power (as in a position as minister, or vice-minister). He was just the head of this commission and reported directly to the president. Recalling his position as the head of the initiative, Pedro said, “I knew it would be a conflict.” He thought that his position as the leader of this group would cause Roberto Dobles, the current minister of the environment, to feel jealous.

In a document released on 7 December 2006, the executive power of Costa Rica released a document stating that the president of the republic declares, in the public interest, the initiative “Peace with Nature” (Poder Ejecutivo 2006). The document asks leaders from all ministries of government, autonomous institutions, and public entities to give their support and collaboration toward the initiative, the presidential commission, the executive commission, the executive office, and the activities that develop as part of the process of executing the plan (pg. 2). The slogan, “Peace with Nature” helped to “sell” the initiative, as interviewee #11 claimed. The government began the Peace with Nature (“Paz con la Naturaleza”) initiative with executive decree Number 33487-MP (Bandera Azul doc 2010). Article number 10 of the decree states that as part of the Peace with Nature initiative, Costa Rica will convert itself into a carbon neutral country by the year 2021.
The adoption of the carbon neutral commitment did not require the approval of the unicameral legislative assembly in Costa Rica because the carbon neutral pledge is not a law; rather, it is a policy. As the former Minister of the Environment explained, he didn’t think it was necessary to make it an official law in Costa Rica because when you want to make something a law, “you introduce bureaucrats.” Also, if it had been made a law, then businesses would come up with excuses for why they can’t do it. By making it a policy, no one is required to become carbon neutral but everyone has the option to become carbon neutral. In this way, the carbon neutrality commitment replicates other examples of voluntary, government-led efforts in the 1990s to promote sustainable development, including the Blue Ecological Flag program and the Certificate for Sustainable Tourism.

While Arias and Ugalde had Pedro Leon on board, they still needed a coalition. After writing the executive decree outlining the plan for Peace with Nature, the government assembled a commission to work on the initiative. The commission (Table VII) initially consisted of 30 people who came from a wide array of specializations including former and current government officials (such as the President, the Minister of the Environment, and the Vice Minister of the Environment), leaders from industry, and scientists. The two “fathers” of Costa Rica’s national parks system, Alvaro Ugalde who began the initiative and Mario Boza, were part of the group. Leaders in industry came from the areas of coffee, canned tuna, and supermarkets. Some scientists came from Costa Rica while others came from the US (including two from the University of Pennsylvania who had a long history of working in Costa Rica). There was some representation from civil society, since elites in Costa Rica tend to move between
government, university positions, and NGOs; that was again the case with carbon
neutrality. There were, however, no members of the Peace with Nature committee who
came to the coalition on behalf of large, transnational environmental NGOs. Many people
on the coalition “belong” to multiple sectors, and this reflects a long-standing pattern in
Costa Rica, as discussed in the previous chapter.
Table VII: Peace with Nature Committee\(^\text{18}\)

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Aronson</td>
<td>Business owner/ entrepreneur</td>
</tr>
<tr>
<td>Roberto Artavia</td>
<td>Member of directory council of INCAE (business school)</td>
</tr>
<tr>
<td>Carlos Benavides</td>
<td>Minister of Tourism</td>
</tr>
<tr>
<td>Paul Bornemisza</td>
<td>Business owner/ entrepreneur</td>
</tr>
<tr>
<td>Mario Boza</td>
<td>Conservationist and ex-director of SINAC (national system of conservation areas)</td>
</tr>
<tr>
<td>Mario Carvajal</td>
<td>Business owner/ entrepreneur</td>
</tr>
<tr>
<td>Kevin Casas</td>
<td>Ex vice President of the Republic</td>
</tr>
<tr>
<td>René Castro</td>
<td>Professor of Sustainable Development at INCAE</td>
</tr>
<tr>
<td>Laura Chinchilla</td>
<td>Second vice president of the Republic</td>
</tr>
<tr>
<td>Roberto Dobles</td>
<td>Minister of the Environment and Energy (MINAE)</td>
</tr>
<tr>
<td>Luis Diego Escalante Vargas</td>
<td>Ex Minister of Commerce</td>
</tr>
<tr>
<td>Rodrigo Gámez Lobo</td>
<td>President of INBio (National Institute of Biology)</td>
</tr>
<tr>
<td>Winnie Hallwachs</td>
<td>Biologist, University of Pennsylvania</td>
</tr>
<tr>
<td>Daniel Janzen</td>
<td>Biologist, University of Pennsylvania</td>
</tr>
<tr>
<td>Pedro León Azofeifa</td>
<td>Biologist</td>
</tr>
<tr>
<td>Alejandrina Mata Segreda</td>
<td>Vice Minister of Education</td>
</tr>
<tr>
<td>Kenton Riegel Millar</td>
<td>Expert in global affairs</td>
</tr>
<tr>
<td>Manfred Peters</td>
<td>Business owner/ entrepreneur and ex Vice Minister of the Environment</td>
</tr>
<tr>
<td>Alfio Piva Mesén</td>
<td>Biologist</td>
</tr>
<tr>
<td>Adriana Prado</td>
<td>Actress and presidential consultant</td>
</tr>
<tr>
<td>Carlos Manuel Rodriguez</td>
<td>Vice president of Conservation International (Also, former Minister of the Environment)</td>
</tr>
<tr>
<td>Jorge Rodríguez</td>
<td>Vice Minister of the Environment and Energy (MINAE)</td>
</tr>
<tr>
<td>Bruno Stagno</td>
<td>Chancellor of the Republic</td>
</tr>
<tr>
<td>Álvaro Umaña</td>
<td>Ex Minister of the Environment</td>
</tr>
<tr>
<td>Carlos Uribe</td>
<td>Business owner/ entrepreneur</td>
</tr>
<tr>
<td>*Alvaro Ugalde</td>
<td>Biologist, conservationist, director of national parks</td>
</tr>
<tr>
<td>*Carolina Mauri</td>
<td>Olympic swimmer, lawyer</td>
</tr>
<tr>
<td>*Sylvia Leon Koberg</td>
<td>Daughter of Pedro Leon (head of the committee); hired as a writer and fundraiser</td>
</tr>
<tr>
<td>*Jorge Polimeni</td>
<td>Government consultant to MINAE (1996-2007), Biologist, Creator of Fundación Bandera Ecológica NGO</td>
</tr>
<tr>
<td>*Oscar Arias Sanchez</td>
<td>President</td>
</tr>
</tbody>
</table>


*These 5 people were not listed as being part of the committee in the website cited above. However, interviewees told me that they were part of the coalition.
Many people on the coalition already knew each other because they were current and/or former government officials or part of the national parks leadership. Rather than being a formal process in which the President specifically chose each person for the committee, people talked about it more as a process in which people talked to other people that they already knew and brought them into the coalition. For example, the Minister of the Environment (respondent #16) explained that once he was working on assembling information related to carbon neutrality, he could easily pull people from other ministries. As he put it, ‘I would just say I need to borrow this guy for six months to learn about gases from this sector.’ Government officials and scientists dominated the coalition. As respondent #18, an author of the plan explained, she already knew Roberto Dobles so when he needed someone to work on the pledge, he called her and she switched from working for MICITT to MINAE. Because people already knew each other, including some who had known each other for 30 years such as Alvaro Ugalde, Oscar Arias, and Pedro Leon, getting the committee together happened relatively quickly. At the same time, the committee lost people relatively quickly. By the time of the domestic carbon neutrality announcement (explained below), Alvaro Ugalde had already left the committee.

The coalition decided to pursue three goals that would fall under the Peace with Nature umbrella. They were: the creation of a fund for the national parks, carbon neutrality, and the greening of the public sector. These three goals are a reflection of the interests of members of the committee. Alvaro Ugalde, for example, wanted to see the creation of a fund to protect the national parks. Pedro Leon recalled that Alvaro said, “if I get that, then I can die happy.” Roberto Dobles, the Minister of the Environment, pushed
for the carbon neutral pledge. As respondent #18 put it, Dobles was “el gran impulso del tema al nivel global,” or the great impulse for the theme of carbon neutrality at the global level. And assorted other people, including respondents #s 15 and 18 thought the public sector was making minor strides to reduce emissions and wanted to see those efforts grow, in order to green the public sector. While carbon neutrality was just one of the three goals, interview #12 (a biologist, representative from civil society, and consultant to the Peace with Nature initiative) believed that carbon neutrality gave the government a frame, a “general theme,” to fit all of our concerns into because it encourages lower rates of consumption.

February 2007: Official announcement of pledge

The government produced a decree in December 2006 announcing the beginning of the government-led initiative, “Peace with Nature.” In January 2007, the interdisciplinary coalition on Peace with Nature was formed. In February 2007, the government announced the Peace with Nature initiative, and the goal of becoming carbon neutral. The government chose an international, rather than a domestic, stage as the place to first announce the pledge.

The Minister of the Environment at the time, Roberto Dobles, announced Costa Rica’s carbon neutrality pledge at the 24th session of the UNEP governing council meeting in Nairobi (5-9 February 2007). Asked why he made the carbon neutrality announcement at this meeting, Dobles said that he announced it there because that was the way to “get the word out” about the pledge and build enthusiasm. Dobles had been Costa Rica’s Minister of the Environment since May 2006, when his cousin, Oscar Arias,
became president. At this UNEP meeting, Dobles became the president of the governing council. The position of the president of UNEP rotates by region of the world, and it was Latin America’s turn to choose someone who could serve as the president. Roberto Dobles said that the Ministers of the Environment of other Latin American countries approached him and asked if he would serve as the nominee for the presidential position. On the first day of the meeting (5 February 2007), Dr. Dobles gave a speech in which he accepted his position as the President of the council. In this speech, he said the following: “Coming from Costa Rica, a country where the sustainable management of natural resources has been a state policy and where peace has also been part of our way of life (we abolished the armed forces in 1948) I am very honored to serve as President of UNEP’s Governing Council and Global Ministerial Environment Forum. We have now declared Peace with Nature in our country and this concept is now at the center of our development and trade policy,” (Dobles 2007). In short, the government was able to achieve positive international exposure by making the announcement of the pledge at such a visible forum. In this sense, the circumstances of the first announcement of the pledge reinforced the overall political strategy of achieving iconic status.

Drawing upon data from newspaper accounts, the findings from chapter 3 showed that Costa Rica was the fourth country (after New Zealand, Norway, and Vatican City) to make a carbon neutral pledge. Because pledges are made as political announcements, newspapers were the most appropriate source to use to identify pledge-making countries. The sample of newspaper articles analyzed in that chapter clearly did not include an article that mentioned Costa Rica’s pledge at the UNEP meeting. Since Costa Rica made this pledge in February 2007, it seems that Costa Rica was in fact the first country to
make a carbon neutral pledge. So some people interviewed thought that Costa Rica was the first country to make the pledge, which reinforces the iconic impact of the pledge. As the section below reveals, ministers from other countries were also talking about carbon neutrality at the 2007 UNEP meeting. But, by saying that Costa Rica was the country that first brought up the idea of carbon neutrality at the UNEP meeting, it is able to maintain the high iconic status of the pledge.

When Dobles made the public commitment to carbon neutrality at the UNEP meeting, he encountered ministers from Norway and New Zealand who said to him, “we’re also thinking about this,” meaning they were also thinking about making a carbon neutral pledge. He said to them, “let’s create a network” to exchange information and good or bad experiences that we encounter while working on carbon neutrality. Then, he explained, cities approached him and the other ministers and said, we want to do this too. Even cities from countries whose national governments opposed emission reductions approached Dobles and asked to join the network.

The UN took up Dobles’s ideas about carbon neutrality in two forms. First, in October 2007 the Chief Executives of the United Nations adopted the “UN Climate Neutral Strategy” (UNEP Annual Report 2008: 19). This means that all UN agencies began work on becoming climate neutral by 2009. Second, the UN launched the carbon neutral network that Dobles proposed. According to UNEP’s 2008 annual report (2009: 20), “In February 2008, UNEP launched the Climate Neutral Network (CN Net) to promote national, regional and global involvement in climate neutrality.” Participants in the climate neutral network consisted of regions, countries, cities, companies, and associations and organizations.
Carbon neutrality was not on the agenda for the formal talks at the 2007 UNEP meetings. But after Dobles announced the carbon neutral pledge at this meeting, he proposed to put carbon neutrality on the agenda for the 2008 UNEP governing council meeting. As he explained, the agenda for these meetings is set well in advance of the meeting, so they had to start early. As he put it, the “body” of UNEP decided it was a good idea, and a carbon neutrality meeting was added to the 2008 agenda. This meant that during the 2008 UNEP meeting, there was a specific meeting for the participants of the carbon neutral network. He explained that he contacted the “Europeans” in an effort to get them to the meeting. At that time, he said, the Europeans were planning for the upcoming global summit in Copenhagen, for which they had very high expectations. He explained that they, especially the British, the Norwegians, the French, the Germans, the Danish and the Dutch were very positive about the chances for making meaningful commitments at the meeting to reduce emissions. These countries talked about how they could help Costa Rica, because they knew that corporations in their respective countries would want to fund an initiative like carbon neutrality in Costa Rica. Ministers from all countries who came to the UNEP council meeting were invited to come to the talks on carbon neutrality at the 2008 meeting, but only representatives from those countries that were positive about it came. So the Chinese were invited, he said, but they didn’t come. As he put it, we were really talking to “just the believers.”

The timeframe

In Costa Rica’s national strategy for climate change (ENCC), the country outlines its goal to balance their emissions with offsets (and thus become carbon neutral) by the
year 2021. This year is also the 200-year anniversary of Costa Rica’s independence. Interviewees offered three explanations as to how the carbon neutral target date came to be the same date as this anniversary. One government figure and author of the national plan (respondent #18) said that what “justified” the national strategy on carbon neutrality was the goal of reaching it by 2021. She said that the Minister of the Environment asked her, what better goal could there be to celebrate our 200 years of independence than to be carbon neutral? Reaching carbon neutrality was the “principal reason” that motivated their efforts on the issue. A second explanation was that it just worked out that way. As Roberto Dobles put it, the forests would capture so much carbon by 2021 that the country would be carbon neutral by that year. After that year, forests could no longer capture enough carbon to offset the carbon coming from other sources (mainly transportation), so they would have to pursue other options to offset the emissions. The third explanation, from a consultant, respondent #11, an environmental consultant to the government, was that when Roberto Dobles presented the idea of carbon neutrality, the “realistic” estimate was that it would take until 2027 to reach carbon neutrality. But when Dobles returned to Costa Rica from Nairobi after having made the pledge, Arias said we have to aim for 2021 because this is our bicentennial. This idea, “works” (“trabaja”); in other words, the 2021 goal gets people excited and gives the goal importance. The 2021 goal serves to amplify the symbolic aspect of the commitment. So while there were competing explanations about whether, and if so why, the timeframe changed over time, they all agreed that the government eventually coalesced around the 2021 goal for its historical significance.
July 2007: The domestic announcement

Although Roberto Dobles announced the country’s carbon neutral pledge to the world in February 2007, it was not until July of that year that the goal was officially announced in Costa Rica. On July 6, 2007 President Oscar Arias announced Costa Rica’s voluntary commitment to become a carbon neutral country by 2021 (Arias 2007, República de Costa Rica 2008). The Peace with Nature coalition organized a major kickoff event to introduce fellow Costa Ricans to the idea of establishing peace with nature. Some international visitors were invited to attend the official launch of the coalition, including the head of the United States’ Smithsonian Institution (who gave a speech) and E.O. Wilson, the biologist from Harvard who introduced the concept of “biodiversity” and was a member of the executive committee that helped form the Organization for Tropical Studies (OTS) in Costa Rica in 1962 (Hubbell 1967).

In elaborating on the official political announcement of the carbon neutral pledge, respondent #12, explained that although the coalition consisted of scientists, lawyers, and politicians, it had to be a political figure who announced the pledge. As he put it, science is one thing, politics is another, so it had to be a political figure that made the announcement. That political figure was Oscar Arias. By the time of the national announcement of carbon neutrality at the National Theater, however, the political coalition had already suffered a major loss. Alvaro Ugalde, one of the “fathers” of Costa Rica’s national parks system, had left the group. Pedro Leon, head of the coalition, suspected (but couldn’t say for sure) that Alvaro’s departure was due to his frustration with the lack of progress of the group. Perhaps this was because up to this point, most of
the achievements associated with the carbon neutrality pledge were in the realm of symbolic politics.

Just a few days after making the national announcement (July 15, 2007), Oscar Arias published an article in Costa Rica’s major national newspaper, La Nación. In it, Arias announced that the country has declared peace with nature. Then, he describes Costa Rica as a country that doesn’t need to take on this goal, but is nonetheless going to, and will lead as a model. Specifically, he said: “Some could affirm that, among all the countries of the world, Costa Rica is precisely the one that least should obligated to assume more compromises in terms of environmental issues. But, if we are going to lead as an example, it is just that we admit our own errors. It is true that we are a country that respects the environment, but it is also true that we are a country that could respect it much more.” Finally, he makes an explicit comparison between achieving carbon neutrality and both the abolition of the army and his own Nobel Peace Prize. He even goes as far as to use the very same word (abolish/abolir) to draw a connection between achieving carbon neutrality and eliminating the army. He claims, “Abolishing net carbon will be, for us, the equivalent of the abolishment of the army that Don Pepe [Figueres] did and the pacification of Central America, which we achieved during my first presidency.” His comments here continue a long-standing pattern of using rhetoric to highlight the unusual actions that political elites in Costa Rica have undertaken and to

19 “Algunos podrían afirmar que, dentro de todos los países del mundo, Costa Rica es precisamente el que menos debería sentirse obligado a asumir más compromisos en materia ambiental. Pero, si vamos a liderar con el ejemplo, es justo que admitamos nuestros propios errores. Es cierto que somos un país que respetá el ambiente, pero también resulta cierto que somos un país que podría respetarlo mucho más.”

20 “Abolir las emisiones netas de carbono será, para nosotros, el equivalente a la abolición del ejército que hiciera don Pepe y a la pacificación de Centroamérica que logramos en mi primer gobierno.”
talk about Costa Rica as a model and as part of the solution, rather than part of the problem. We will return to a discussion of this type of rhetoric in the conclusion of this chapter.

*Why 2007?: Domestic reasons*

Interviewees described a variety of both domestic and global forces that made the carbon neutral pledge happen in 2007. As for domestic pressures, a consultant and author of the national plan for carbon neutrality (respondent #11) said (in Spanish), you know how in English there are “moments of opportunity?” “This was one of those moments,” (“Fue un momento eso”) because Kyoto had already happened and you already had the Peace with Nature campaign. Asked if he thought it would be possible for the government to have made the pledge now (2015), he said it would be more difficult to do it now because money is very restricted (“la parte fiscal es muy duro”), the assembly is more divided, and there is more disagreement about how the Ministry of Transportation should resolve traffic congestion.

This description about the necessary conditions for the pledge is interesting because neither a huge amount of money nor agreement from the assembly was necessary to make the pledge. This is because the government did not sponsor individual business’s carbon neutral transitions and because carbon neutrality is a policy, not a law, and thus did not require a vote form the assembly. In other words, a less divided assembly would not have made it more likely for the policy to be made.

As for money being more restricted now than it was in 2007, the data do show that according to GDP growth at least, finances are more restricted in 2014 than in 2006-
2007. The annual GDP growth was 8.78 percent in 2006 and 7.94 percent in 2007. Annual GDP growth was negative by 2009, before slowly rebounding to between 3.5 and 5 percent. Annual GDP growth in 2014 (the last year for which data are available) was 3.5 percent (World Bank 2015). So although the interviewee’s words synch up with the available data, there is no obvious reason why more money available would have led the government to make a carbon neutrality pledge.

As for divisions in the assembly, the two political parties that have alternatively held the presidency from 1986-2014 (PLN & PUSC) progressively lost their shared grip on the majority of seats in the Legislative Assembly from 1986-2010. In 1986, the two parties held 54 out of a possible 57 seats in the Assembly, while in both 2006 and 2010, they only held a combined 30 of 57 seats (Cortes Ramos, Hernandez Naranjo, and Sanchez-Ancochea 2014: 374). However, the two parties have not seen a precipitous decline in their hold on legislative seats since 2006. While they held 30 seats in 2010, they control 26 in 2015 (Embassy of Costa Rica, nd). So, while the two parties lost control of the Assembly between the 1980s and the mid-2000s, they have not seen a marked decline in their dominance since 2006. So while the assembly has become more divided since the 1980s, there is again no reason why this should have made a difference in terms of when the carbon neutral pledge happened.

Another author of the plan, respondent #18, said 2007 was a “good time for this.” She attributed this to the fact that in 2007, there were good relations, good links, across groups in society. Government, industry, and academia all wanted the same thing. This made carbon neutrality feasible. When asked if there had been other moments of agreement, or links, across sectors in Costa Rica, she said yes, a long time ago when we
started to protect our forests. As she put it, “around some themes, people got involved,”
(“alrededor de unos temas, la gente involucró”). Carbon neutrality was one of these
themes. Of course, the process of creating the parks involved numerous contentious
debates (Evans 1999).

A third domestic reason according to respondent #11, consultant to the
government, and the Minister of the Environment (respondent #16), was that the carbon
neutral pledge was a way to bolster the state’s efforts to encourage reforestation and slow
deforestation. As discussed above, in the early 1990s the government put a tax on
gasoline and the funds went to FONAFIFO (the national forestry financing fund). This
organization then used the money to pay landowners if their land provided any one of
four possible services. Numerous interviewees said that FONAFIFO “worked” and the
country had recuperated a lot of forest. The data from the previous chapter also show that
the program contributed at least in part to moderate increases in forest cover in the
country. By 2007, however, this fund was starting to run out of money to pay
landholders. Since part of the process of a business becoming carbon neutral involves
paying to compensate remaining emissions (explained in the first section of this chapter),
the carbon neutral norm was a way to fund FONAFIFO and thus bolster national forest
protection.

Respondent #18 claimed that once there was a change of government in 2010, the
theme of climate change did not have the same importance during the next term. When
asked why she thought that was, she said that we got a new minister of the environment
who brings new priorities. As she put it, climate change and carbon neutrality “era el
tema ‘top,’” or the top/ most important issue in 2007 and 2008. She attributed this to
work that the Minister of the Environment (Roberto Dobles) did with the issue. She called him, “el gran impulsor del tema al nivel global,” or the primary driver of the carbon neutral theme at the global level. In other words, Dobles prioritized the carbon neutral goal while serving as the Minister by making it his primary objective. In addition though, he was able to get the word out about Costa Rica’s national pledge in international forums because of his position at the 2007 UNEP meeting.

Why 2007?: Global reasons

Other people elaborated on global conditions that contributed to the pledge happening in 2007. Respondent #15 thought that the reason the government made the pledge in 2007 was because by that time, there was growing evidence of changes in the atmosphere and glaciers melting. Also, he said, the carbon neutral pledge likely happened in 2007 because of that “huge event” that happened in the U.S. in 2005, by which he meant Katrina. As he explained, “I think Oscar [Arias] realized all the symptoms were real.” For him, the scientific consensus about climate change and the ability to say specific events were attributable to climate change were not the only reasons carbon neutrality happened in 2007. He stretched back even further (to the late 1990s), and said that the Kyoto Protocol was viewed as a “failure” in Costa Rica because countries like the United States and Australia did not fulfill their initial commitments. He said that in light of other states’ failures to respond, we have to do something on our own and push others to do the same. Respondent #19, from the banana industry, said that a series of global events in 2007 led to Costa Rica’s carbon neutrality commitment that year. He said that by 2007, China and the US did not commit to emission reductions, there was a
summit in Bali (COP 13, December 2007), there was a summit in Brazil (Rio +15), and in 2006 there was COP 12 in Nairobi. So, as he put it, there was “a little more of a push” in this year (“un poco más de empuje”).

Additional comments

The above sections help to explain the process by which Costa Rica came to adopt a carbon neutral pledge. Some of the interviewees’ comments about carbon neutrality, however, do not fit neatly into this narrative. In this section of the chapter, interviewees’ comments about four additional themes are grouped together. These four groups of comments cluster around four themes: why carbon neutrality (as opposed to a different pledge), why Costa Rica, the fact that Costa Rica’s greenhouse gas emissions are negligible on a global scale, and the idea that no one is against the idea of carbon neutrality.

Why carbon neutrality?

Not a single interviewee mentioned that the government considered other mitigation policy ideas before settling on the carbon neutral goal. As Roberto Dobles put it, carbon neutrality was a way to respond to concerns about “local gases” (like pollutants) and greenhouse gas emissions. He also said that carbon neutrality was an economic strategy, a social strategy, and a technological strategy, so it had a lot of benefits. Some interviewees claimed that the reason why the national carbon neutrality goal was necessary was because other mechanisms for mitigation, such as the Clean Development Mechanism (CDM) from the Kyoto Protocol, were not very useful in Costa Rica. As respondent #20, an author of the national plan for climate change put it, CDM
had its “limitations” for making progress on mitigation in Costa Rica. This is because (according to him) the two factors that the CDM can address are the generation of clean electricity and deforestation. In both of these themes, Costa Rica “has advanced” (“ha avanzado”) while other developing countries are behind Costa Rica in these areas. In other words, by the time the CDM was created to help developing countries get more clean energy projects, Costa Rica already had a very clean energy generation system and had already made progress with slowing deforestation. As the author went on to add, “business as usual” in Costa Rica already involved a lot of renewable energy and reforestation. As he added, because we couldn’t get much out of CDM, we did carbon neutrality: “We needed our own plan” (Necesitamos nuestro propio esquema.”) When asked whether deforestation is a problem in Costa Rica, he said that the country’s payments for environmental services program worked very well and that it is a very well recognized program that has protected natural resources. Another author of the national plan (respondent #11) had a similar argument. He said we already did reforestation and our electricity is pretty clean (about 98% renewable). He perceived that the CDM was meant to help countries with problems of deforestation, whereas, “We needed something to push the agenda” (“Necesitamos algo para impulsar la agenda”) because the functions of Kyoto did not work here.

According to Rojas (2004: 298) who has written about domestic level climate change issues in Costa Rica following the UNFCCC and the Kyoto Protocol writes that, “Costa Rica has translated its climate change commitments into two working areas: establishment of national policies and legislation, and development of emission reduction projects.” Examples of the former include the forestry law and the 1990 energy law (both
described above), while Costa Rica’s work on AIJ and CDM projects illustrates the latter. The carbon neutral policy of 2007 fits in Costa Rica’s long history of responding to global climate change through national-level policies.

Negligible GHGs on global scale

Another theme that emerged from the interviews was that Costa Rica’s carbon neutral pledge doesn’t really matter on a global scale because there are many countries that refuse to limit their emissions; however, that doesn’t mean that we don’t matter. Like Roberto Dobles, described above, who justified the carbon neutral pledge because of the “working model” they could create, respondent #s 10 and 19 talked about Costa Rica as being an important “example.” Respondent #10 explained it like this: with environmental issues, if you do pro-environmental things now, you have better options later. If you do pro-environmental things and others don’t then there’s a problem. If you don’t do pro-environmental things, you won’t benefit until everyone does it later. You have to, he explained, have countries like the U.S. pledging to reduce emissions. In Costa Rica, we produce less than 1% of global emissions, but we wanted to be an example. We wanted to say to the U.S., to China: we’re poor, we’re developing, but we’re going carbon neutral. Why can’t you? Repsondent #19 also emphasized this point. He said that the emissions of Costa Rica on the global scale are nothing, like .001%. So the carbon neutral pledge was important for “prestige at the national level,” (“prestigio al nivel del pais”), and to be “an example” (“un ejemplo”). In other words, interviewees saw the carbon neutral pledge as a way to push back to the inaction of countries that failed to commit to emission reductions.
Respondent #18 put it somewhat differently. She said, proportionally with the US, China, England, and Europe, our emissions are minimal compared to those big, industrialized countries. Our emissions, she added, don’t matter on the global scale. But that doesn’t mean we don’t matter. On the contrary, yes it matters what we do. We have to show them that we can do something. We can do things with policies and with small actions in institutions. Finally, respondent #15 stressed the economic benefits of carbon neutrality for Costa Rica. Carbon neutral in terms of mitigation, he explained, means nothing. Central America produces .7% of global greenhouse gas emissions, so Costa Rica achieving carbon neutrality is not important on a global level. But carbon neutrality has a huge meaning in terms of us becoming “energy sovereign.” Energy sovereignty, he explained, would give Costa Rica a huge economic advantage.

These comments reflect a commonly used style of rhetoric in Costa Rica, in which political elites describe Costa Rica as exceptional and as part of the solution, rather than part of the problem. Here are some historical examples of this kind of rhetoric. First, according to Bull (1999: 962), the peace process that Oscar Arias led reinforced the idea of the rest of Central America as a “regional security complex,” and led the Monge administration (1982-1986) to declare that, “Costa Rica is not a part of the Central American problem, but Central America is part of Costa Rica’s problem.” Second, in a piece outlining Costa Rica’s stance on sustainable development, then President Jose Maria Figueres Olsen (1996: 190) claimed, “As the community of nations tackles new common challenges, Costa Rica wants to serve and be useful. As a small and poor country, we offer our land and our determination as a contribution to efforts which build
livable communities and build hope… We aim to turn Costa Rica into a pilot project of sustainable development with the hope and expectation that Costa Rica will continue along the path in perpetuity. Costa Rica is offering itself to the world as a "laboratory" for this new development paradigm—a laboratory in which we can, with help from the international community, design frameworks and mechanisms for a sustainable future. In short, there is a history of Costa Rican political elites drawing upon the narrative of peace in Costa Rica, presenting itself as a model or “pilot project,” and stating that although it shouldn’t be required to do certain actions, it has volunteered to pursue them anyway.

No one is against carbon neutrality

Finally, there was a common sentiment among stakeholders that support for the pledge was so widespread that in fact no one was against it. Respondent #12’s (biologist, government consultant, NGO official) words make clear how widespread this support is. “Nobody” (“nadie”) is against the idea of carbon neutrality. As he put it, to be against carbon neutrality would be “like urinating in a church” (“como orinar en una iglesia”), or like being in favor of the army. He went on to add that when the government made the public commitment of carbon neutrality, society completely accepted it. Although he seemed to think this was a good thing, he also had reservations about it. He explained that accepting carbon neutrality implies that you have “turned yourself in to the Yankee Empire” (“entregarse en el Imperio Yankee”) because we “have to become a stamp country” (“tiene que ser un sello país”). In other words, carbon neutrality might be a good thing, but it implies that Costa Rica (and Costa Rican products) has to sell itself. To even further elaborate on the general population’s support of carbon neutrality, he explained
that there are more people who are in favor of carbon neutrality than are in favor of getting rid of the army. He added that some people still say we need to keep an army because of Nicaragua, but “nobody says shit about carbon neutrality” (“nadie dice shit a carbono neutro”). The idea in Costa Rica that nobody is against the carbon neutrality pledge is likely a reflection of the absence of fossil fuel interests in the state.

Some interviewees suggested that perhaps attaching the 2021 target goal to the carbon neutrality pledge was not a good idea, but even these people did not think that the pledge was a bad idea. One author of the national strategy on climate change said that if she could do it over again, she would have just focused on public transportation. She added that the public transportation system is “scary” (“espantoso”) and that in the aspect of public transportation (especially in San Jose) we are “an ugly country” (“un pais feo”). She expressed that if the government could have focused on this specific issue instead of carbon neutrality, perhaps they could get people to leave their cars. But even this person did not negate the merits of the carbon neutral goal. She added that after a time, the government realized that achieving carbon neutrality would be “very ambitious” (“muy ambicioso”), and that if the country could reduce even half of its emissions that would be sufficient.

This idea about no one being against the specific goal of carbon neutrality even extended to widespread support for sustainable development. One interviewee, respondent #10, explained that even today, the concept of sustainable development continues to be important here, in society. When I asked him if companies ever refuse to take on sustainable development, he said very few. In Costa Rica, he explained, we want to become better everyday. “I don’t,” he elaborated, “perceive people who are negative
about this theme,” (“No persigo gente negativa en este tema”). These comments about widespread support for the pledge are likely a reflection of the relatively egalitarian class structure in Costa Rica.

Why Costa Rica?

Three interviewees from government downplayed the uniqueness of the Costa Rican state as contributing to the carbon neutral pledge. Respondent #18 explained that there was nothing unique about Costa Rica that makes it the type of place where carbon neutral pledges happen. She went on to add that Costa Rica has a tradition of doing this- of having a sensibility about environmental issues- but even that is pretty artificial. When I pushed her to explain this in more detail by asking her directly what a country needs in order to make a carbon neutral pledge, she said any country can do it. She did, however, say that a country has to have political support at the highest levels and that “the citizens” (“los ciudadanos”) have to be in favor of it. The limited data that are available from Costa Rica do seem to support her view. World Public Opinion (2006) asked people in 33 countries in 2006 how serious they considered climate change to be. Fully 84 percent of people in Costa Rica said climate change is a ‘very serious’ problem. Among the countries studied, only the percent of people who were very concerned in Chile (86%) and Nicaragua (90%) surpassed that of Costa Rica. These results were similar to those found in Vignola et al.’s (2009) report on data from the first nationally representative study on public opinion on climate change in the country. The percentage of Costa Ricans who were very concerned about climate change in 2009 was almost identical to the percentage that was very concerned in 2006.
Respondent #16 argued that Costa Rica’s goal with the pledge was to show that a country could do this and that it could be replicated elsewhere. This was related to his bigger point, also expressed by many others, that if Costa Rica becomes carbon neutral, it really doesn’t matter because “there’s still China, India, the US, and Japan.” “We wanted to prove,” he added, “that with all those benefits [environmental, economic, social, and technological benefits of the pledge] that we could create a model, a working model.” The idea, he said, is that if we can become carbon neutral it’s “not because of us but because of the model.” In other words, achieving carbon neutrality would not be something inherent to the Costa Rican state, Costa Rica’s history, or the structure of the Costa Rican economy, but rather would be due to the state having followed the model. Other countries could follow the model. Interviewee #3 echoed this by saying that Costa Rica’s process of working on carbon neutrality makes the country a “model under construction.”

Although these people downplayed the uniqueness of the country as a contributing factor of the carbon neutral pledge, it was more common for interviewees to emphasize the uniqueness of the country. First, was the theme of how Costa Ricans see themselves. As respondent #9 put it, Costa Ricans consider themselves “an island” (“somos una isla”). By this, he meant that historically Costa Rica has focused on its image on the global scale much more than it has worried about its reputation locally. Drawing upon the research he did for his own dissertation, he explained that Costa Rica has, since the 19th century, tried to emulate the Europeans. Costa Ricans “closed themselves in,” (“nos enceramos”), focused on our center (meaning San Jose), and forgot about our coasts and the rest of Central America. However, as he went on to elaborate,
“but we never forgot about the world,” (“pero nunca olvidamos del mundo”). We have always, he explained, been concerned with how Europe and the US see us and how we can be more like them. So the carbon neutral pledge is another reflection of Costa Rica doing something to improve its iconic image abroad.

Respondent #16’s point about how Costa Rica could end up like Norway or Greece illustrates this point. In describing the trust fund Norway has set up through selling their oil, he said this is a good model and compared it to the Venezuelans who just sell their oil, saying this is not good. He explained that the Norwegian model could be adopted here, if the government in Costa Rica allowed for the extraction of natural resources. As he put it, Norway has a very high human development index level, it scores highly on the environmental performance index from Yale, and it has high energy competitiveness. As he put it, “all those beautiful things” come from oil and gas. Before extracting resources, he added, Norway was a country of fishermen. As he put it, there are a lot of bad things going on now in Costa Rica and we could be the “next Greece of the Americas” because of dogmas people have in politics about refusing to drill. As is clear, it is common for Costa Rican political elites to think about how Costa Rica compares to European states.

*Iconic action*

As described in chapter 2, the carbon neutral pledge is an example of symbolic political action (Edelman 1964). As the description in this chapter makes clear, from the moment discussions about carbon neutrality began, there was a clear connection between making the pledge and expecting to see a boost in tourism. In other words, elites in Costa
 Rica saw that the symbolic action of the pledge could turn into real economic value. Of course, as the first section of this chapter makes clear, Costa Rica’s pledge is more than just symbolic. But it was clear from the start that pledge had real, positive economic consequences. The pledge is something from which Costa Rica can derive economic benefits.

A common theme that ran through some of the interviews was the idea that Costa Rica’s carbon neutral pledge is an example of iconic action. Some interviewees conveyed this theme by talking about Costa Rica as being a model for other countries. Other interviewees conveyed the theme by saying that the pledge, in the background at least, was another way for the country to be recognized at the international level.

According to Szasz (1994), political figures use icons to convey political messages in compact and impactful ways. As he puts it, “The production and presentation of icons… speeds up the issue-creation process and makes that process take quite spectacular form,” (Szasz 1994: 63). In other words, icons quickly galvanize concern/support for an issue. As he goes on to explain, the creation of icons tends to convey “frightening imagery” and produce “dread” in viewers (Szasz 1994: 63). One example of this is the fifty-five gallon drum, which became a political icon of the broad social problem of hazardous waste (Szasz 1994: 63).

While Szasz’s (1994) illustrates that political imagery through icons builds support for an issue, the narrative description of Costa Rica’s process of making a carbon neutral pledge illustrates that there are particular social formations that can become iconic. In other words, people in Costa Rica used the pledge to create and bolster the
country’s status as a climate change mitigation poster child. Moreover, places like Costa Rica can become iconic through championing positive icons, rather than dreadful one.

As the chapter on QCA made clear, carbon neutral pledges are pretty unusual. In some respects, a carbon neutral pledging nation is a “deviant case” (Platt 1992: 35-36) or “an extreme or a unique case” (Yin 2009: 47) since so few nations have made this commitment. Carbon neutral pledging nations provide a model for how to arrive at a political decision to make an ambitious mitigation decision. This ability to become a model might be even more amplified in a context where there is a history of using rhetoric to amplify particularly exceptional activities of the past, such as abolishing the army, as is the case in Costa Rica.

Conclusion

This chapter provided a narrative account of the process leading up to the February 2007 public commitment of carbon neutrality. It did this by explaining the specific events that changed the way in which Costa Rican groups worked with each other and the way in which Costa Rica gained additional prestige on the international level. The 1992 Earth Summit strongly influenced environmental politics in Costa Rica through the creation of the Earth Council, Costa Rica’s signature on the UNFCCC and the CBD, and the creation of the bilateral sustainability treaty with the Netherlands. The positive international exposure of Costa Rica, especially via the Nobel Peace Prize win, helped lead to the boom of Costa Rica’s ecotourism industry in the early 1990s. The country’s rise in ecotourism was not only dramatic in terms of changing the main driver of the economy, but also made Costa Rica stand out (once again) from its neighbors since
this was not an era in which tourists from the US or Europe would have considered visiting many other Latin American countries. It thus reinforced Costa Rica’s global image as the ‘diamond in the rough.’ Throughout the 1990s, the Costa Rican government sponsored several voluntary programs to certify the ‘eco’ aspect of its tourism sector and enthusiastically participated in market-driven approaches to environmentalism, including the beginning of the development of the carbon market via the pilot phase of the AIJ. The carbon neutral pledge draws upon both of these tendencies from the early 1990s: the pledge is voluntary and the pledge is a way to bolster international tourism and thus bring in additional foreign capital (largely from the US and the EU).

The lead up to the carbon neutrality pledge reinforced ideas about the necessity of strong intra-group ties and strong ties across heterogeneous networks (Sandstrom 2011). On the one hand, the members of the Peace with Nature initiative were all from the Costa Rican context. There were no members from international NGOs on the coalition and members already knew each other from previous work engagements, such as the development of the national parks. On the other hand, the announcement of the pledge was made to an international audience (at the UNEP meeting) months before being made to a domestic audience in San Jose. Making the pledge at the UNEP governing council meeting was a way for the Minister to build up the positive international exposure of Costa Rica. Building on this narrative account, the following chapter explores what has happened in Costa Rica since the carbon neutrality commitment was made in 2007.
Chapter 6: Post-pledge making context in Costa Rica

This chapter explores what has happened in Costa Rica since the 2007 public commitment to achieve carbon neutrality. Since national carbon neutrality pledges are voluntary and are not overseen by any governing body, pledges could simply be expressions of “myth and ceremony” that are not followed with specific actions to reduce emissions (Meyer and Rowan 1977). This concern has been raised. As Kythreotis (2015: 807) claims, “Pledges only mean something if they are translated into firm political action.” In the earlier chapter on the QCA analysis, however, research showed that the pledging nations have done more than just pledge to become carbon neutral. Several of the pledging nations have adopted specific policies or strategies to become carbon neutral, while those that haven’t adopted specific policies or strategies have written national plans to achieve carbon neutrality. This shows that leaders in the pledging nations have gotten together to at least talk about carbon neutrality and write down concrete ways in which each of the states can achieve this goal. This chapter investigates Costa Rica’s post-pledge context in detail. The findings show that, while political support for the pledge has in some respects waned since the initial commitment, elites and industry have pursued many concrete actions to limit emissions in the country and the pledge remains salient in the country’s current (2015) climate change plans. This chapter is followed by the conclusion, which will review the findings of this dissertation, relate those findings to the theoretical frameworks presented earlier, and suggest areas for further research.

_Presenting the idea to industry_
After the public announcement of carbon neutrality, the Minister of the Environment visited various sectors of Costa Rican industry to talk with leaders about the national goal. Of course, this was not the first time anyone from industry was learning about the pledge, since some prominent leaders had served on the Peace with Nature coalition. The Minister visited various chambers (“cámaras”) of business to talk with them about carbon neutrality. The government could not subsidize businesses’ transitions to becoming carbon neutral and they did not provide any incentives to companies that reduced their carbon emissions, or even became carbon neutral. He claimed that the budget deficit was bad then, not as bad as it is now (2015), but not great. The government’s approach, he explained, was to encourage businesses to start with smaller, easier actions to reduce their emissions. As he put it, environmental issues have to be paired with economic issues, so he thought businesses would see that they could reduce emissions, save money, and bring in more consumers who were attracted to the idea of carbon neutrality all at the same time. As the Minister explained, the goal of a company is to sell more and cost less, and that businesses could introduce carbon neutrality as an additional factor. As he put it, carbon neutrality is “good business.” As he explained, companies would save a lot of money by working toward carbon neutrality. But also, he added, consumers will love this, “especially the Europeans.” He said, we ship many things to Europe, for example, bananas. If we can ship a banana that meets all of the usual standards in quality and taste, plus it’s carbon neutral, consumers are going to pick this product. Why wouldn’t they? In other words, he seemed to think that consumers would make voluntary decisions to restrain their carbon emissions once they had the available option.
There are various chambers of business in Costa Rica that oversee and represent individual businesses with a particular sector of the economy. For example, the Costa Rican chamber of hotels was created in 1940 and today, has over 300 members who represent a variety of kinds of hotels (CCH Association 2015). Dobles started by visiting the chambers of industry, bananas, hotels, banks, and airlines. When he arrived at these chambers, he described that there are many advantages of becoming carbon neutral.

People in industries that government officials approached were overwhelmingly positive about carbon neutrality even before the Minister showed up to talk with people about it. One example should help illustrate industries’ enthusiasm. After announcing the pledge in 2007, the government began a process of figuring out how to create a plan for businesses to become carbon neutral. This process would end up taking two years. However, within this 2-year gap between the announcement of carbon neutrality and the model explaining how individual institutions can become carbon neutral, industries publicized their support for becoming carbon neutral. As one interviewee and author of the national plan on carbon neutrality explained, thirteen companies approached the Ministry and asked how they could become carbon neutral. Even before the carbon neutral norm existed, these companies told the government that they were on board with the goal.

Of course, not all industries responded enthusiastically to the idea of carbon neutrality. As interviewee #3, from the Minister of the Environment’s office of Climate Change put it, the government “invited” many industries to join the efforts on carbon neutrality and many took up work on the initiative. In 2013, he said that about 80 companies had already signed on to work on becoming carbon neutral. When asked about
which companies said ‘no’ to the idea of carbon neutrality, he said that if companies
didn’t want to work on carbon neutrality they would not directly respond by saying no,
we won’t work on this. Rather, they just didn’t respond to the government’s invitation.
He called this (not responding as opposed to actively avoiding a government-led
initiative) “very latino,” (“muy latino”).

When Dobles, the Minister of the Environment visited industries, he found that
many groups were already making their own efforts to reduce greenhouse gas emissions.
Respondent #19, director of environmental issues at CORBANA, a private overseer that
regulates Costa Rica’s banana industry, explained that after the government made the
carbon neutral announcement, the Minister of the Environment went to the commission
of banana producers and government officials that had existed since 1992. By the time
Roberto Dobles approached this commission to discuss carbon neutrality in 2007, he
found that the commission was already talking about carbon neutrality. Then, Dobles met
with the whole banana sector. This was a bigger meeting than the one with just the
commission. One year later, the commission produced a “report” (“un compromiso”) and
gave it to the government. In that report, the commission outlined what they were going
to do to move toward carbon neutrality. The government then gave this plan to individual
banana producers so they knew about strategies and plans to become carbon neutral.
Respondent #19 claimed that industry generally “supported the idea” (“apoyó el tema”)
of carbon neutrality.

As of 2015, there are 3 plantations in Costa Rica that are certified as carbon
neutral. One is called Finca San Pablo, and is oweney by CORBANA. Another is owned
by a German company, and a third is owned by DelMonte. According to respondent #19,
the industry has outlined every step of domestic banana production and considered the carbon emissions at every step in the process. In 2008, the banana commission made a pie chart about the origins of carbon dioxide emissions from the domestic banana production industry. About 55% of these emissions of GHGs came from fertilizers, 28% from ground transportation (getting bananas from plantation to the coast, where they’re put on a ship), 14% from electricity, and about 2.2% from airplanes (used to spread fertilizers). As of 2007, the industry as a whole used 600 tons of fertilizer but had halved that amount by 2012. He explained that now, plantations spread fertilizer a smaller number of times but use more fertilizer each time they spread. He seemed to suggest that this change resulted in the production of fewer emissions. At the same time, companies that are trying to make banana plantations carbon neutral will invest money to offset their emissions. He gave the example that if a company produces 20 million tons of carbon, they will invest for 20 million tons on carbon sequestration on trees in a forest here in Costa Rica. A company would do this once, not year after year. In other words, the assumption is that the trees in the forest will keep growing and keep sequestering carbon. Therefore, the companies ‘count’ this sequestered carbon, in determining whether they are carbon neutral, year and year. When asked how he thought the country could produce more carbon neutral bananas, he said the market has to want it.

He also added though, that there have been other examples when banana plantations in Costa Rica had to make changes quickly in order to comply with an international norm. In the early 2000s, within just 6 months, every plantation in Costa Rica (all 130) except for one was able to make changes to meet the requirements of the norm “Global Cap.” Complying with this norm, which involved making changes to
practices and records, allowed plantations to sell their bananas in European supermarkets. So, the point was that plantations can make changes quickly if they can get a competitive advantage on the market.

Roberto Dobles explained that he when he visited the chamber of hotel owners he essentially repeated what he said to the chamber of banana producers. As he put it, the consumer wants the nice hotel with the nice view, but they’re going to pick the carbon neutral one over the non-carbon neutral one. As respondent #18, an author of the national plan for climate change put it, carbon neutrality is a “competitive plus” (“plus competitiva”) for hotels.

People in hotels and coffee explained that working toward carbon neutrality had multiple benefits. Of the three people I spoke with (a general manager of a hotel in San Jose that was the first in the city to achieve carbon neutrality, a representative from a luxury hotel in the central northern part of the country, and a representative from Café Britt, one of the largest coffee producers in Costa Rica), they all said that carbon neutrality was an intrinsically important goal, but also emphasized the business advantages that came from being carbon neutral. As a representative from Café Britt explained, Britt was one of the first Costa Rican companies to become carbon neutral because “we really believe it’s something we can work with.” As he put it, we try to “keep a low profile.” So carbon neutrality was a good thing. He then added that they see the environmental benefits from working on carbon neutrality. When asked if he thought carbon neutrality gave Britt an advantage on the market, he said, not locally but maybe internationally. He explained a story he had heard that in some supermarkets in another country, in front of the potatoes, you’ll see the “water footprint” calculated for each
potato. So calculating things like how much carbon or water was used to produce a produce is “just the beginning.” He added, in 5 or 10 years, I bet you’ll decide what to buy in a store not based on price or flavor, but rather for something with less packaging, water or electricity.

Respondent #21, a representative from Tabacón, Grand Spa Thermal Resort, which describes itself as being “right [sic] in the middle of the rain forest [sic] at the Arenal Volcano National Park,” explained that carbon neutrality was about doing the right environmental thing and making money (Tabacón Resort 2015). She believed that Tabacón started working on carbon neutrality right after the government’s announcement because the hotel has “a lot of bosque primario” (primary forest) around it and we want to maintain that. But, she added, it’s “a business strategy also.” We are a luxurious hotel in the middle of the north of the country and “everything here is green.” So carbon neutrality is also about value. Tourists are “attracted to that idea,” and “most people are looking for that” when they are booking a vacation. She explained that the hotel hired someone to calculate the hotel’s emissions and create an inventory of its GHG emissions. The hotel started this process in 2007 and finished it in 2011. Then the hotel sent the inventory to the Ministry of the Environment and the MINAE sent back a letter confirming receipt of the inventory.

Respondent #14, the general manager of the first hotel in San Jose to become carbon neutral explained that the hotel started to work on carbon neutrality out of a sense of “social responsibility.” As he said, the hotel already had social programs to benefit kids, and the environment and other types of social responsibility so the carbon neutral pledge is another example of this. We want to make the hotel a better place and we want
tourists to come here. It has to be a “place where people want to come.” As he put it, we “want the [carbon neutral] stamp” and we want to “be an example for other companies.” As he put it, we wanted to and we were the first hotel in San Jose to earn the carbon neutral mark from the Ministry of the Environment. The hotel was certified as carbon neutral for 2 years, but because they’re doing a lot of big renovations right now, they “stopped” their work on carbon neutrality for the time being.

Before working on carbon neutrality, this hotel in San Jose had worked on the Certificate of Sustainable Tourism through the Costa Rican Institute for Tourism. As respondent #14 put it, the hotel has earned up to 4 of 5 possible leaves, and this is very hard to do in San Jose because there’s “a lot of pollution here.” When asked what advantage he thought carbon neutrality gives them as a hotel in San Jose, he said ‘none’ now because they’re no longer certified. When we had it though, it was good for promotion. Moving forward, it’s not so important to be carbon neutral. It’s important for us to just do it for the environment. He added, many companies use carbon neutrality as a selling point but for us, it’s more of an issue of “social responsibility.” But he added that the hotel is in the process of redesigning the website and that they are planning to have a page about carbon neutrality and their other work on the environment. He explained, carbon neutrality “works” for a hotel in the mountains because there everything is green, but it doesn’t really work in San Jose. What is interesting about this is that the luxury hotel in the mountains likely emitted more greenhouse gas emissions in the first place since it is a resort hotel that offers numerous amenities and luxurious options for travelers. But the hotel manager in San Jose didn’t acknowledge this. Rather, he seemed to think that the location in which a hotel is located affected its ability to become carbon neutral.
neutral (or not). So for the resort hotel in the forest, carbon neutrality “works” because the hotel can increase their offsets by taking into consideration the greenery that surrounds the hotel. In contrast, the hotel in San Jose is in the heart of the city, and is thus surrounded by other commercial activity.

Respondent #, an informant from Café Britt, one of the largest coffee companies in Costa Rica, described Britt’s process with becoming carbon neutral. He said that Britt was one of the first 7 companies to get the certification of carbon neutrality, which they earned in March 2013. He expressed that Café Britt started in a good position, relative to other companies, for becoming carbon neutral. It is, as he put it, more difficult for certain companies to achieve carbon neutrality. He compared Café Britt to Dos Pinos, a producer of dairy products. He said that Dos Pinos is carbon neutral, but they have an annual footprint of 22,000 tons of carbon, and they have to compensate at about $7/ton. In contrast, our footprint is about 600-800 tons of carbon per year, so it’s not that big.

While Café Britt had never done a certification about emissions before carbon neutrality, they had followed other environmental standards before carbon neutrality. For example, they were compliant with ISO-14,001 before they started their work on carbon neutrality. According to Café Britt’s website, they are compliant with ISO-9001 (version 2000) due to meeting or exceeding “international quality standards in management and processes” and with ISO-14001 (version 2004) by certifying that their “operations comply with international standards for environmental protection,” (Café Britt no date). They had also worked on the Costa Rican Institute for Tourism’s (ICT) Certification for Sustainable Tourism (CST) plan, first achieving two “leaves” and then later earning four. Because of Café Britt’s work on complying with ISO-9001, ISO-14001, carbon
neutrality, and CST, it was pretty easy, according to this interviewee, for Café Britt to
achieve the mark of the country’s brand “Esencial Costa Rica.” PROCOMER, an
organization affiliated with the government, created this country brand in 2013
(PROCOMER 2015). It is the same idea as Peru’s country brand of a red swirl. So for
Café Britt, carbon neutrality seemed to be just another certification the country worked
on over the years.

This section above explains that after making the pledge, the government visited
various industries and invited them to be part of the country’s carbon neutral initiative.
This is the first way in which the government followed the political announcement of the
pledge with action.

2007-2009: Writing the carbon neutral pledge

Three officials associated with the Peace with Nature coalition began to write the
national plan on achieving carbon neutrality in 2007 and it took them until 2009 to
complete it. The plan came to be called “The National Strategy on Climate Change,” (“La
Estrategia Nacional de Cambio Climático”). In 2015, all countries were invited to write
national plans (called Intended Nationally Determined Contributions) ahead of COP 21 in
Paris. The conclusion of this dissertation returns to a discussion of this conference.

Before working on the national strategy, one of these three people (respondent
#18) worked in the Ministry of Science, Technology, and Telecommunications
(MICITT). She knew Roberto Dobles because he had been the Minister of MICITT in the
1990s. After the public commitment of carbon neutrality, Dobles called her and asked her
to come and work with him on the national strategy for climate change. “He knew me,”
she explained, so she went to the Ministry of the Environment and then returned to the Ministry of Technology after writing the national plan. She brought in two other consultants to help her write the national plan. She brought in a consultant who is trained in Chemistry (respondent #20) and a faculty member from UCR who has a degree in public policy (respondent #11). After writing the pledge, the faculty member returned to UCR, where he worked on the idea of a Market for Carbon, and the other consultant worked at what eventually became the office that took over the work on the carbon neutrality pledge after the group was disbanded at the end of Arias’s presidency (Fletcher 2013: 158-9). This office came to be called the Dirección de Cambio Climático, or the Climate Change Department.

Roberto Dobles, the Minister at the time, stressed the importance of using international standards for the metrics in the National Strategy plan on climate change. This was important because it would allow for comparisons between Costa Rica and other countries. To elaborate the high regard in which he held standards (and data more generally), he used the example of a quote from William Deming, a statistician from the U.S. He said, Deming said, “In God we trust. Everyone else uses data.” His point was that a carbon neutral national strategy plan needed to have metrics that people could trust. The data for the national plan came from a variety of sources. FONAFIFO had data about the forests, they used UN standards on emissions, and national reports on mitigation came from the National Meteorological Institute (IMN), which had collected this type of data since the Earth Summit in 1992. As he explained, the people working at IMN knew people at the UN, so they knew the international metrics. As he put it, “I just had to put the pieces together.”
In the national strategy on climate change and in other documents associated with the pledge, there is a discussion about how systems used to achieve carbon neutrality should be “measurable, reportable, and verifiable (MRV)” (“mejorables, reportables y verificables” (MRV)). The authors of the pledge appear to have drawn upon the use of these terms at the international level and apply them to the specific national case of Costa Rica. Specifically, “At COP 13, through the Bali Action Plan, Parties agreed on the principle of applying measurement, reporting and verification (MRV) for developing country Parties, which laid the foundation for the subsequent elaboration of the existing comprehensive MRV framework for developing country Parties. MRV occurs at the international level, but can also be voluntary at the national level,” (UNFCCC 2014). The use of these terms in Costa Rica’s carbon neutrality plans is a key illustration of the world society dynamic, in which ideas circulating at the global level move downward to apply to national polities.

The process of writing the national plan on carbon neutrality is another example of action the government took after making the pledge. The process to write the pledge took two years. The production of this document means that people in Costa Rica got together and discussed in detail how to achieve carbon neutrality and that these discussions were sustained for two years after making the pledge. This is another example of how the government followed the pledge with concrete actions.

**March 2008: The Crucitas Conflict**

The former head of the Peace with Nature initiative (respondent #15) claimed that the Peace with Nature effort was very successful for about 6 or 7 months, and then there
was a conflict. On March 17, 2008, Oscar Aria’s government overturned former president Abel Pacheco’s ban on new open pit mining projects (Holland 2015), and gave Infinity Gold Ltd. a license to operate an open-pit gold mine in the Northeast part of the country. The mine, called Las Crucitas, is located in the cantón (district) of San Carlos, in the province of Alajuela, a short distance from the San Juan River and the border with Nicaragua (AIDA 2008). Estimates of the potential gold at the mine are at about 1.2 million ounces (Holland 2015). The company was there legally and had been in Costa Rica since the 1990s. Once Arias reversed the ban, respondent #15 said, “…as they say in the U.S., the shit hit the fan.” He explained to Dobles that opening the mining pit at Las Crucitas was a terrible contradiction to all the other work we’re doing to promote Peace with Nature. From then on, he explained, it was a constant arm wrestle.

Arias’s decision upset domestic environmentalists. The area in which the Las Crucitas mine is located is one of the last areas known to house the Great Green Macaw (Holland 2015), a bird that is native to Costa Rica and in danger of extinction (BirdLife International 2016). This is similar to other instances, in which the survival of a particular species has been at the heart of an environmental controversy (The Last Stand: Ancient Redwoods and the Bottom Line 2001). Following Arias’s ban on open pit mining, Infinito Gold moved to secure the permits and to cut down yellow almond trees, the trees in which Green Macaws nest, around the mine. The Northern Union for Life, or UNOVIDA in Spanish, filed a court appeal against the president’s decision, citing national laws protecting the macaws and the almond trees, as well as Costa Rica’s signatory status to the Convention on International Trade in Endangered Species of Wild
Fauna and Flora (CITES) (Holland 2015). By November 2010, a Costa Rican appeals court determined that the mining at Las Crucitas would not go on, and the “legislature unanimously passed a law banning all new open pit metal mining projects,” (Holland 2015). Arias and Dobles, his minister of the environment, did not get away unscathed. Both were subject to criminal investigations, with Dobles ultimately given a three-year suspension for “breach of public duty in issuing a permit to Infinito,” (Holland 2015).

After the initial idea to open Las Crucitas up to gold mining in 2008, the government was also interested in pursuing oil exploration. Again, respondent #15 explained that if the government did this, it would go against what we’re projecting with Peace with Nature. A meeting was held with people from the Peace with Nature group, the Ministry of the Environment, and RECOPE (the Costa Rican refinery/explorer of petroleum). At the meeting, the president decided not to support oil exploration. However, the government did allow mining to start at Las Crucitas. On October 13, 2008, the Ministry of the Environment, using decree Number 34.801, that the Crucitas mine would be opened in “public interest and national benefit,” (Cerdas 2015).

But following that announcement, as respondent #15 explained, the “whole country rose” to oust Infinity Gold. As he put it, Costa Rica has “hundreds” of NGOs and they mobilized to shut down mining at Las Crucitas. He added that in Costa Rica, there are a lot of “very conservative environmentalists here in Costa Rica… conservative in the sense that they do not want any land touched.” These environmentalists ousted Infinity Gold. As Broad and Cavanaugh (2015: 423) explain, “A strong citizens’ movement successfully pressured the [Costa Rican] government to close down Canadian mining company Infinito Gold’s Crucitas operation and pass the legislative ban.” Activists “won
a court-ordered halt to Infinito’s activities later in October 2008,” (Broad and Cavanaugh 2015: 424). In November 2010, Congress passed a ban on new open-pit mining operations (Broad and Cavanaugh 2015).

The Peace with Nature coalition, which had already lost Alvaro Ugalde, continued to fall apart after the Crucitas battle. The Crucitas issue led Mario Boza, the initial director of the country’s national parks system, to leave the group, likely, as respondent #15 explained, because of the contradiction he saw between the goals of Peace with Nature and the political acceptance of open-pit mining.

2009-2011: Determining the standards for carbon neutrality

After describing his visits to various industries, the former Minister of the Environment explained that the question came up as to what are the standards for reaching carbon neutrality. Although the carbon neutral pledge was officially announced in 2007, it was not until 2011 that the government published a process model that companies could use to become carbon neutral. The former Minister of the Environment claimed, “we had done our homework” before making the pledge at the UNEP meeting, by creating scenarios about carbon neutrality. This view, however, was not widely shared. A former consultant to the Peace with Nature initiative explained that Arias had no science when he made the pledge. Respondent #13, who works in the unit of the verification of greenhouse gases from INTECO, said that the pledge was only political, and that it took time for the government to create a model for reaching carbon neutrality. In 2009, the Ministry of the Environment solicited help from INTECO (“El Instituto de Normas Tecnicas de Costa Rica”), or the Costa Rican Institute of Technical Norms, to
create a carbon neutral “norm.” Since it was created in 1987, INTECO standardizes voluntary norms that happen at the national level in Costa Rica (ISO nd). INTECO makes sure that Costa Rica is in compliance with a variety of norms, which can come from international organizations such as the International Organization for Standardization (ISO).

By “norm,” it meant that the government was looking for INTECO to create a series of steps that a business that wanted to become carbon neutral could go through in order to achieve the goal. Once a company passed through these steps and had been verified, the government would give the business a “seal” of carbon neutrality. INTECO has dealt with many other environmental norms. For example, INTECO has helped organizations in Costa Rica comply with norm ISO 9,001 about the minimum environmental standards that a company has to meet when it makes a product or provides a service. While INTECO is a private organization, it is strongly associated with the public sector in two ways. First, the building is physically located on the outskirts of the University of Costa Rica’s campus in San Jose. Second, when INTECO creates a national norm, most of the people working on it will not work for INTECO. Respondent #13 gave the example that in a group of 12 people working on the creation of a norm, 1 person will be from INTECO and the other 11 will be experts in the topic. In the case of carbon neutrality, 14 people worked on the norm and 1 person from INTECO observed the process. These other 13 people came from industry, government, universities (scientists), and others were environmental consultants (some consultants worked in a non-profit organization).
Again, respondent #13 explained that while there are international standards for many things that INTECO can verify in Costa Rica, carbon neutrality was different. It was different because a norm did not exist for how a country could achieve carbon neutrality. There was, however, a norm from the U.K. about carbon neutrality called PAS 2060 (Publically Available Specification). The British Standards Institution began to develop a carbon neutral norm in 2009 and finalized it in April 2010 (Carbon Clear 2011). INTECO used this norm for the basis of its work on the Costa Rican norm for carbon neutrality. This is an example of a world society dynamic (Meyer et al. 1997), in which a country replicates and slightly adapts a norm from the world society and applies it to its specific legislative district.

According to the British Standards Institution, by 2009, groups at numerous levels of scale were making the claim that they had become “carbon neutral.” As BSI (2010: iii) goes on to explain, “… due to the lack of common definition and recognized method of validation, there have been inconsistencies in how the term is used, resulting in a growing cynicism about carbon neutrality.” The point of PAS 2060 is to specify the steps that entities can take in order to achieve carbon neutrality in a verifiable way. According to the BSI (2010: 1), this process model can be used “by any entity, including regional or local government, communities, organizations/companies or parts of organizations (including brands), clubs or social groups, families, individuals.” As respondent #13 explained, this norm was “pretty specific” to the context of the U.K. so INTECO couldn’t exactly replicate the norm in Costa Rica. We had to make it our own, he explained. The national norm for carbon neutrality was eventually called: INTE.12.016.
The national norm that INTECO developed for Costa Rica involves achieving carbon neutrality in three steps: calculate, reduce, and compensate. These three steps are the same regardless of the type of institution that is seeking to become carbon neutral. The first step is for the organization to identify the sources of its emissions. A business can either hire a consultant who can do this for the business, or leaders from the business can take a course that INTECO offers to learn how to identify the amount of emissions they create. Businesses must do this step on their own. Businesses must develop an inventory of their emissions from combustibles, energy, and their “aguas negras” (“black waters”). A business would count its emissions over one year and at the end of the year should be able to say, “we emit X tons of carbon per year.”

Once the inventory is complete, the organization moves on to the second step, which is to reduce emissions. At this point, a company has to decide what they are going to do. The carbon neutrality norm does not specify how or what a company should do; the company must pick actions on its own. For example, he explained, if the business was this room (where the interview took place), the only use of energy would be the light, so maybe the business would switch to more environmentally friendly lights. But still, even after a company makes changes, it is still going to emit emissions. This leads the business to the third step, which is to compensate. Here, a company has to pay for the emissions it continues to release and has to buy carbon offsets. In other words, it pays for its remaining emissions. A business cannot just pay anyone they feel like paying. Since a carbon market is not yet step up in Costa Rica, the business has to pay FONAFIFO. FONAFIFO is the only organization that can sell carbon to other companies that would want to buy it. Costa Rica follows a norm (ISO: 14064-2) for selling carbon. When asked
how similar the Costa Rica norm of carbon neutrality is to the norm in England that it was originally based off of (Pas 2060), respondent #13 said “similar.” The general idea of the three steps is the same in both norms. However, the big difference was that in England, the norm wasn’t coupled with the objective of achieving carbon neutrality at the national level.

Many people expressed the importance of having a verifiable and credible system set up to ensure that there is a standardized way to achieve carbon neutrality. After a company has done these three steps, INTECO evaluates the company to verify that they did what they say they would. If it did, then the company gets the stamp of carbon neutrality from the Ministry of the Environment. Many companies choose to display this stamp on their websites, or in other visible places where consumers could see it.

INTECO and Earth University were put in charge of verifying organizations that aimed for the goal of becoming carbon neutral. Earth University started its carbon neutral department in 2008. A business that has achieved the carbon neutral stamp is evaluated every year by either INTECO or Earth to make sure that it still complies with the norm. It is possible for a business to lose the carbon neutral mark. A third organization accredits the work of both INTECO and Earth. As the Minister of the Environment explained, Costa Rica already had an organization in place that accredits other organizations so the government decided to use the services of this organization. ECA (La Ente Costarricense de Acreditacion), the Costa Rican Entity of Accreditation, was created in May 2002 by law number 8279 to accredit organizations in Costa Rica to ensure that organizations meet standards and produce the highest quality products, goods, and services (ECA 2011).
People took pride in how the “idea” of carbon neutrality was a Costa Rican idea. As the director of the carbon neutral program at Earth University put it, “This is something we built” (“Eso es algo que construimos.”) And in some respects it is, since the government essentially took a norm for businesses and in theory, at least, applied it to the level of a country.

This section provides another example of a concrete action that the government took to achieve carbon neutrality after the political announcement.

2010: Change of leadership

In 2010, Laura Chinchilla, one of Oscar Arias’s vice presidents, won the presidential election. Although Laura represented the same political party as Oscar, her victory brought significant changes for the Peace with Nature coalition. As Fletcher (2013: 159) writes, when Laura was elected, “…funding for PCN [Paz con Naturaleza] ceased and the office was disbanded. It was replaced, however, with a new Dirección de Cambio Climático (Climate Change Department), headed by William Alpizar, within the Ministry of Environment, Energy and Telecommunications (MINAET), which has assumed responsibility for the climate neutrality campaign…”

The fate of the Peace with Nature coalition seems to replicate that of previous interdisciplinary and government-created coalitions. The government has a history of creating temporary coalitions that bring together people from politics, science, civil society, and industry (or some combination of these four sectors). In other words, the Costa Rican government frequently creates strategic action coalitions (Fligstein and McAdam 2012). While strategic action coalitions are often sites of contestation, political
coalitions are ideal—typically characterized by cooperation that comes from “shared interests and a common collective identity” of members (Fligstein and McAdam 2012: 15). To get representation from science, the government often gets scientific consultants from university scientists at the University of Costa Rica. This reflects some of the findings from Fisher’s (2004) work, about how the state (in Japan and the Netherlands) grants greater access to people from other sectors, than the US state does.

A few examples of previous political strategic action coalitions in Costa Rica should help illustrate the state’s history of fostering these types of coalitions. The 1956 Wildlife Conservation Law created a commission, consisting of people from hunting and fishing organizations, government, and a biologist from the UCR, to advise the Ministry of Agriculture and Livestock on their work promoting wildlife (Evans 1999). Also, at the very beginning of efforts to establish the national parks, Guillermo Yglesias (the minister of agriculture and livestock from 1966-1970) created “an interdisciplinary committee” to draft what became the 1969 Forestry Law. This commission consisted of a conservationist, government agencies, the private sector, and leaders from the University of Costa Rica. The banana commission from the early 1990s fits this model as well. This coalition consisted of members from large- and small-scale banana production, various government agencies, and CORBANA, a private company that sets the minimum price for a box of bananas and provides loans to small producers. Also, in 1998 the government created a coalition to work on climate change. This “working group” was tasked with “the objective of coordinating at the national level the efforts to confront climate change” (Rojas 2004: 298). In the country’s first national communication to the UNFCCC in 2000, the government describes this commission as being responsible for “arranging and
maintaining a permanent dialogue between all sectors of society, on the politics and measurements of climate change mitigation and adaptation,” (Republica de Costa Rica 2000: iv). There appears to be a pattern of Costa Rican political elites forming these coalitions. The Peace with Nature coalition, which was the group that announced the carbon neutrality pledge, is another example of this type of political arrangement.

2012: Doha UNFCCC meeting

In December 2007, the 13th meeting of the Conference of the Parties to the UNFCCC took place in Bali, Indonesia. From this meeting emerged the Bali Action Plan, which is a set of actions to be undertaken by countries. In this plan, both developed and developing countries were called upon to write nationally appropriate mitigation activities (NAMA) (UNFCCC 2008: 3). Five years later, at the 18th COP meeting in Doha, Qatar, “Negotiations pursuant to the Bali Action Plan concluded.” (UNFCCC 2014g). As respondent #20 (author of the carbon neutrality pledge and current worker in the DCC office) explained, the idea of the NAMA existed “as a concept” (“como concepto”) before the national for carbon neutrality was written, but it didn’t exist yet as a specific plan or strategy. By August 2010, forty non-Annex I countries had summited their NAMAs and countries were formally invited to submit NAMAs after the 16th COP meeting in Cancun, Mexico in November/ December 2010 (UNFCCC 2014g).

NAMAs work at two levels of scale. They have a national level component and an individual action level component (UNFCCC 2014g). Costa Rica’s national level NAMA component is the national carbon neutrality pledge (as it as is for Bhutan and Maldives [Fukuda and Tamura 2010]). As respondent #20 explained, there are many sectors in
Costa Rica that have been working on NAMAs. Three interviewees mentioned NAMAs for the sectors transportation, agriculture, cattle ranching, solid wastes, and coffee. Respondent #8, who works for the Spanish Agency for International Cooperation, which funds development projects in several Latin American nations, including Costa Rica, went so far as to say that Costa Rica has been a “pioneer” in creating a NAMA for coffee. He said Costa Rica is the first country to have a NAMA for coffee. NAMAs are usually written for sectors (i.e., transportation), not products (like coffee). However, the NAMA Café is a sector-wide NAMA for Costa Rica, with various individual projects under that umbrella, including the 2015-2019 in progress project on the Low Carbon Coffee NAMA Support Project (Nieters, Grabs, Jimenez, Kowollik, and Alpizar 2015). This project aims to curtail emissions “by changing the type and application scheme of fertilisers and by introducing agroforestry. On the processing side, water will be reused and recycled and by-products of milling will be composted and used as fertiliser or as fuel for the coffee toasting process,” (Nieters, et al. 2015: 2). This project is of a significant size; the “target groups include at least 6,000 producers on 25,000 hectares land and about 50 coffee mills,” (Nieters, et al. 2015: 2).

This first section shows that although the Peace with Nature coalition eventually disbanded, elites followed the carbon neutral pledge with some concrete actions. First, the government presented the idea to various sectors of industry and encouraged individual businesses to become carbon neutral. According to respondent #13 from INTECO, in 2015 there are 12 organizations that have produced an inventory of their greenhouse gas emissions, had the report verified by INTECO or Earth University, and have written a report for how they will achieve carbon neutrality. In addition, another 34
companies have been verified as completely carbon neutral. So industry has been supportive of the carbon neutral goal. Second, the government wrote a national strategy for achieving carbon neutrality that drew upon international metrics for measuring emissions. This plan took two years to write. Third, the government created a process by which organizations could become carbon neutral by drawing upon assistance from INTECO. With the help of INTECO, the government created a norm for achieving carbon neutrality.

The Peace with Nature commission suffered because of the Crucitas conflict in 2008, and ultimately met its end when the administration changed from Arias to Chinchilla in 2010 and the commission lost its funding. Although this might be seen as a loss, the government created a distinct climate change office that is affiliated with, but is in a separate building from, the Ministry of the Environment. This office has the official responsibility of working on the carbon neutrality campaign. Costa Rica is still committed to the goal of becoming carbon neutral. In its INDC, submitted ahead of the 2015 COP 21 meeting in Paris, the government states that the country aims to become carbon neutral by 2085 (Government of Costa Rica 2015). Although there is no explanation for why the country changed the target, it is evident that the government is still committed to the idea.

Overall the findings in this first section show that Costa Rica’s carbon neutral pledge cannot be considered an example of green washing. While it is not clear yet whether the country will achieve the goal, political elites and industry representatives have undertaken numerous actions since the pledge to get the country closer to the goal.
Chapter 7: Conclusion

1. Main findings

This dissertation has investigated the drivers of climate change mitigation through an analysis of the specific case of carbon neutral pledging nations. This final chapter does three things. First, it reviews some of the major findings from this research. Second, it describes what this specific research project suggests about the drivers of mitigation more generally (besides the specific case of carbon neutral pledges). Third, it speculates as to how the findings from this work might map onto new metrics of climate mitigation, through an analysis of the specific case of intended nationally determined contributions (INDCs).

The theoretical chapter presented macro-level approaches for studying states’ national outcomes, before moving into domestic-level dynamics of states and the societies in which they are embedded that might reveal which kinds of states make which decisions. Chapter 3 drew upon newspaper accounts to document which nation-states made carbon neutral pledges and the order in which they made them. Then, the fuzzy-set qualitative comparative analysis (fsQCA) identified the specific confluence of factors that pledging nations share: small population size, egalitarian class structure, good governance, and many environmental INGOs. To explain pledge adoption in one nation, chapters 4 and 5 drew upon the data from one pledging nation: Costa Rica. Chapter 4 provided a historical explanation of how Costa Rica came to fit the profile of a country that is inclined to make a pledge and described how people in Costa Rica talk about Costa Rica’s small size, class structure, good governance, and NGOs. Chapter 5 provided a narrative discussion of the step-by-step process of how elites came to adopt the pledge.
Chapter 6 details what has happened in Costa Rica since the carbon neutral announcement in 2007.

Nine nations made carbon neutral pledges. At first, these seemed like a heterogeneous group of nations with little in common. The results of the fsQCA, however, show that these nations have common dynamics: they are small, and they have egalitarian class structures, good governance, and a lot of environmental INGOs. The fact that these nations made this identical pledge illustrates that some of the frameworks we use to think about environmental policy don’t exactly map onto the reality of how one particular kind of environmental policy (carbon neutral pledges) works. Again, because both world systems theory and world society theory make predictions about the kinds of states that are likely to do something and about how change happens, they could theoretically be used to describe which countries are making carbon neutral pledge. The objective has not been to test how well world systems theory and world society theory explain the particular case of carbon neutral pledge adoption, but rather to develop a sensitivity to the kinds of dynamics that these theories suggest would happen.

The results from the qualitative comparative analysis illustrate some of the dynamics that would be present in a world systems approach to mitigation, but not others. On the one hand, carbon-neutral pledging nations come from the core and the periphery. A world systems approach suggests that because core nations bear the responsibility for creating the problem of climate change, peripheral nations who have hardly contributed to the problem should not be expected to mitigate first (Roberts and Parks 2007). On the
other hand, pledging nations (on average) do not depend on extractive resource-based economies as much as non-pledging nations do\textsuperscript{21}.

This raises the question of why peripheral states would make mitigation pledges. The results from Costa Rica illustrate that the country’s status as a developing nation was invoked not as a barrier to mitigation action, but rather as a driver of that action. As respondent #10 put it, Costa Rica wanted to be an example. We wanted to say to the US, to China, we’re poor, we’re developing, but we’re going carbon neutral. Why can’t you? In other words, being a developing country that made a carbon neutral pledge gave elites some type of leverage in the realm of climate politics. These findings illustrate that an analysis of Costa Rica’s process of getting to ‘yes’ on carbon mitigation might be the exception that proves the rule as the findings show that Costa Ricans still expect to see other high-emitting countries reduce emissions.

The results also have some things in common with the dynamics one would anticipate if using a world society approach. However, in most ways, the research does not lend support to the world society framework. As the analysis of newspaper articles in chapter 3 showed, nine nations have made these pledges, which suggests that states have mimicked other states’ policies in their own legislative initiatives (Meyer, Boli, Thomas, and Ramirez 1997). In addition to predicting the global diffusion of cultural and political models, world society scholars also claim that “rule-like definitions establishing what the nation-state is, what it can do, and how it can relate to other entities are organized and established globally,” (Frank, Hironaka, and Schofer 2000:100). In other words, the standards that outline the properties of the modern nation-state are created at a global, not

\textsuperscript{21} Based on a difference of means calculation.
any single national context. There is some support for this type of organization with the case of carbon neutral pledges. As the results from the Costa Rica case show in chapter 5, the Minister of the Environment made the first announcement about the country’s pledge at a United Nations meeting. He was elected to a position of power (as the leader of the governing council of the UNEP meeting) and in this position he announced the country’s pledge. He did this four months before elites in Costa Rica announced the pledge to a domestic audience in San Jose, Costa Rica. This shows that the minister of the environment announced the pledge while circulating with other global elites. A central tenet of world society theory is that elites from different nations are in contact with each other. They learn from each other, they watch each other, and they mimic (in their own state) what they can see happening in others (Meyer, et al. 1997). Meyer et al. (1997: 164) say that if a new island nation were ‘discovered,’ the “emerging elites of our island society would undoubtedly turn first to American, Japanese, or European models for much of their social restructuring.” Thus, the minister of the environment’s declaration of the carbon neutrality pledge represents a key instance of the world society dynamic.

World society scholars posit that states that are more deeply embedded in the world society will display the results of cross-national policy diffusion faster than others (Frank, Hironaka, and Schofer 2000, Schofer 2003, 2004, Schofer and Meyer 2005). International organizations are theorized to be conduits through which the norms of the world society travel down to national level policies. The finding from the QCA analysis about how carbon neutral pledging nations tend to have more environmental INGOs illustrates this dynamic. The results from the case of Costa Rica, however, show that the relationship between NGO presence and normative, isomorphic policy adoption is not a
straightforward, causal relationship. In Costa Rica, the environmental INGOs were
certainly not central, perhaps even peripheral, to the discussions about carbon neutrality.
INGOs did not simply channel norms about environmental policy adoption down to the
political sphere in Costa Rica. As the quotations from informants make clear, elites in
Costa Rica have few specific and positive things to say about environment INGOs. Plus,
as some pointed out, INGOs tend be “conservative”—meaning that they prioritize forest
conservation, not climate change mitigation. INGOs and political elites (in 2007) were
working on different issues. Even when INGOs do work on climate change in Costa Rica,
we might recall respondent #12’s dismissive comment about their work. As he put it,
these organizations write “conscience reports” by focusing on the effects climate change
will have on polar bears and penguins – issues that do not actually affect people living in
Costa Rica.

In fact, the results from Costa Rica suggest that domestic NGOs, while not central
to the decision-making process, were more involved than were INGOs. Others have
claimed that understanding the role of local NGOs is important for understanding policy
diffusion (Buttel 2000). However, a case study on a different carbon neutral pledging
country might reveal very different findings regarding the degree to which environmental
INGOs push government officials to get to ‘yes,’ so to speak on climate mitigation
policies. People in Costa Rica know that the country is not part a major contributor to
global greenhouse gases. In a country that was a higher emitter, but that also made an
ambitious mitigation pledge, it would be reasonable to expect that INGOs might serve as
conduits for getting states to adopt climate change policies.
There are a few additional ways in which the results about carbon neutrality don’t quite fit with the expectations of world society theory. First, the results don’t align with Hironaka’s (2014) bee swarm model of social change. Again, for Hironaka (2014) social change happens as heterogeneous forces, push, ever so slightly, in the same direction over time with any one particular force not being any more responsible, so to speak, for causing the outcome. There are several reasons why the findings from this study are contrary to those outlined in the bee swarm model. First, the results from the QCA show that the carbon neutral pledging nations are different from non-pledging nations in a few key ways. There are certain dynamics of states, and the societies in which states are embedded, that lead to carbon neutral pledges. Every state in the world polity does not have a small population size, an egalitarian class structure, good governance, and a lot of INGOs.

Second, the results from the content analysis of newspaper articles in chapter 3 provided some modest support for the idea that carbon neutral pledge diffusion has a regional component. The majority of carbon neutral pledging nations and nations considering making pledges (again, defined as those in which the pledge was sporadically mentioned in newspaper accounts) are concentrated in Europe and Southeast Asia/the Pacific. As explained in chapter 3, regional policy isomorphism may result from structural (Beckfield 2010), cultural (DiMaggio and Powell 1983), or a combination of structural and cultural factors (Sikkink 2011). The point is that world society scholars, and Hironaka’s bee swarm model in particular, have little to say about the potential for policies to diffuse first within a region before moving elsewhere.
Third, the world society approach underemphasizes the role that a nation-state’s individual history can play in its future policy decisions. By arguing that all states go through identical processes of policy and structural homogenization, world society approach does not allow for an exploration of how a country’s previous policy decisions (which may not always be the same as all other states’ decisions) affect its future decisions. Here, the case study approach is particularly useful. As the findings from chapters 4-5 show, the carbon neutral pledge is the latest in a long line of seemingly exceptional actions undertaken by the Costa Rican state. As chapter 4 explained, there are similarities between Costa Rica’s decision to abolish its army, the development of the PES program, and the carbon neutrality pledge. The country abolished the army only after it was very weak, very small, and had been overtaken by an army trained at one man’s home. The country initiated the PES program after rates of deforestation had significantly slowed. In both of these cases, the government made a major decision with high symbolic value largely after the problem was resolved. The same dynamic was at play with the carbon neutral policy. The state made a highly symbolic pledge with enormous economic benefits, despite the fact that Costa Rica emits a negligible amount of greenhouse gases. In other words, the carbon neutral pledge “fits” very well into the country’s pattern of making very bold national decisions that relate to people’s values in relation to a problem that has largely been resolved (or doesn’t really exist). The carbon neutral pledge thus fits well into the historical narrative about the kind of place Costa Rica is. The world society dynamic does not pay attention to how policy adoption is connected to countries’ unique historical narratives.
More research on the exact policy statements and/or speeches made by political leaders in these countries would be able to assess the extent to which leaders follow a “script” while making these pledges (Meyer 2010).

The results from this research provide significant support for a state-in-society (Migdal 2004) dynamic because certain kinds of states, located in certain types of societies, are more inclined to adopt carbon neutral pledges. Carbon neutral pledging nations tend to be smaller, have a more egalitarian class structure, have better governance, and have more environmental INGOs than non-pledging nations. The question is why these factors push countries to adopt pledges. It makes the most sense to look at the nexus of these factors through an interwoven theory of cooperation.

Collective action

One of the main findings from the research on the pledge-making process in Costa Rica is the striking degree of ease with which the Peace with Nature coalition was formed and with which the carbon neutral pledge announcement happened. This suggests that it is worthwhile to revisit the literature on cooperation. Specifically, in order for a group to effectively manage a resource, they need both a high degree of intra-group ties, or high network closure, and high heterogeneity to traverse structural holes to gather new information and resources (Sandstrom 2011). In other words, groups that are successful at cooperation have strong ties to people with whom they are similar and with whom they are different. The results from the Costa Rica case show that elites had both of these things.
Let’s start with intra-group ties, or the degree of high network closure. As described in chapter 5, many of the elite decision-makers who were part of the Peace with Nature coalition in Costa Rica already knew each other. Specifically, they knew each other because they studied biology together at the UCR, they had worked together on initiatives related to the national parks in the 1970s/1980s, and/or because they had come into contact while working in the same government offices.

We should recall that Costa Rica is a country in which people have historically concentrated in the central valley. The political institutions, the major universities, and the INGOs are concentrated in a relatively small area—namely, San Jose. But people are not atoms. Just because people are close to each other and may run into each other does not, by itself, imply that they will work together to design a policy. This is why we need to consider the factors of these states, and the societies in which they are embedded, to understand how the carbon neutral pledge happened.

According to Axelrod (1984: 16), “a continuing chance of interaction is necessary for the development of cooperation,” though it is not necessarily sufficient. In other words, because people knew each other and because they likely anticipated a need to work together again on other issues, they had strong intra-group ties and this facilitated cooperation. Cooperating on the Peace with Nature coalition and carbon neutrality specifically opens up the possibility for these elites to collaborate again in the future. This physical closeness, combined with the “continuing chance of interaction” (Axelrod 1984: 16) facilitates cooperation.
This idea about the “continuing chance of interaction” (Axelrod 1984: 16) is related to the first causally relevant condition: population size. Here, it makes sense to begin the discussion about size with some of the insights from resilience alliance theorists. Holling, Gunderson, and Ludwig (2002) for example, have worked on outlining a theoretical framework that can be used to understand social, economic, and ecological changes happening at the global scale. Despite the proliferation of problems with a global reach, nature has not collapsed. They argue that a complete global collapse has not happened because nature is resilient and social systems learn from the past in order to create innovative solutions for the future. Holling, et al. (2002: 15) point out that the resilience of an ecosystem is found in two domains: at the macro level and the micro level. Large scale, geophysical processes maintain balance in a system unless a perturbation happens repeatedly or is of an overwhelming size. At the same time, there are also “… clusters of biota at small- and fast-scale ranges” that help produce resilience (Holling, et al. 2002: 15).

How does this connect to carbon neutrality in Costa Rica? The Peace with Nature coalition can be looked at as a cluster of a small group of people that was able to move quickly. In other words, the small size of the group allowed it to move quickly to agree upon the goals of the coalition and to take action.

So the small size of the Peace with Nature coalition enabled it to coalesce and agree on the agenda in a short amount of time. But the size of a country also has effects above and beyond this. Specifically, in a small country, elites are likely to already know each other and to be inclined toward cooperation. Here, it makes sense to quote Ott (2000: 195) at length:
“… in small states the number of elites is much smaller, and those elites are likely to
know one another very well. This creates a level of association among elite groups that is
historically based, and less likely to be tainted by disagreements over distribution or other
issues. Because the elites interact on a deeper level, it is more likely that they will choose
compromise over confrontation, and less likely that they will perceive the activities of
their rival elites as threatening. Which is not to say that the elites will agree on every
issue, but their overall pattern of interaction will be generally more cooperative.”

Small states have what Ott (2000) calls a “small scale social structure,” which
especially means that there is a small group of political elites making decisions and they
come into contact with each other often.

In other words, there is a circulation of elites in Costa Rica that enables collective
action to happen quickly because they know each other and they know they’ll have to
work together again in the future. C. Wright Mills’s work on the power elite speaks
directly to this finding. According to Mills, who was writing about American society and
politics in the 1950s, power rested at the nexus of three spheres: politics, the economy,
and the military. For Mills (1958: 287), the “leading men of each… have tended to come
together to form the power elite of America.” Elites form this power elite based on three
factors. First, the individual people tend to be of a “similar social type” (Mills 1958: 288),
because they come from similar backgrounds. Second, the institutional hierarchies in
which these men work tend to intersect, so there is a structural way in which this elite
forms. Third, these elites start to appreciate the benefits of working with each other. As
Mills (1958: 288-289) explains, the men realize “that their several interests can more
easily be realized if they work together, in informal as well as in formal ways.”

Of course Mill’s description of the power elite doesn’t perfectly map onto the
case of Costa Rica because Costa Rica doesn’t have a military. Despite this, however,
Mills’s description does seem relevant to the case of the circulating elites in Costa Rica.
It might be possible to connect Mills’s description of the power elite to a discussion on cooperation. First, most of these elites are from Costa Rica and educated at the same schools, which suggest that they comprise a “similar social type” (Mills 1958). Second, there is an overlap between institutions. In other words, there is a kind of revolving door for elites that allows them to move relatively easily between sectors. As Hrabanski et al. (2013: 130) put it, “In Costa Rica, the circulation of actors occurs between academic research centres, the State apparatus, and NGOs.”

Third, elites from various sectors work together well – until they reach a conflict. The power elite of the Peace with Nature coalition realized that they could fulfill their interests by working together on the Peace with Nature committee. As we can recall, Peace with Nature was a broad coalition that had three major goals: 1) the creation of a fund for the national parks, 2) carbon neutrality, and 3) the greening of the public sector, which reflected the interests of committee members. People only started to leave the Peace with Nature coalition after they felt that the group was not doing enough to work toward the stated goals. They didn’t leave because they couldn’t agree on the goals. Because they agreed on the goals, there was a way for everyone on the committee to benefit. First, the idea of peace with nature (and all of the 3 individual goals) makes the country a more desirable location for tourists to visit. In addition to that, individual people on the committee could see that they could get a benefit from the goals of Peace with nature. For example, Alvaro Ugalde, former head of the national parks system was reported to have said that if the development of the fund for the national parks was created, “then I can die happy.” Here’s another example. Steven Aronson was a member of the Peace with Nature committee. Aronson is the CEO of Café Britt, one of the largest
coffee producers in the country. Aronson was able to see the personal benefit to himself if he supported the carbon neutrality idea since consumers would be attracted to the idea of carbon neutral coffee. Guess which was the 7th company in Costa Rica to become carbon neutral? Café Britt. In other words, people on the Peace with Nature committee supported the coalition because they could see the benefits that it would bring to them. And for some, this was a very real, personal, potential economic payoff (as is the case for Steve Aronson).

In this way, the members of the Peace with Nature coalition represent a kind of green “growth machine” (Logan and Molotch 2007). According to Logan and Molotch (2007), people in a growth machine constantly find ways to create more demand. To do this, they steer development patterns in ways that are useful for them. Because some of the Peace with Nature coalition members could benefit directly from the national carbon neutrality pledge, they can be seen as the drivers of Costa Rica’s green growth machine. The green growth machine in Costa Rica promotes the expansion of environmental policies and ideas, with the idea that these policies will bring in more international tourists, and thus significant economic benefits to the country. This is related to the idea of iconic action, as described in chapter 5.

Building on the ideas of Mills (1958) and Logan and Molotch (2007), it is again important to bring in Olson (1965). According to Olson (1965: 36), “The most important single point about small groups… is that they may very well be able to provide themselves with a collective good simply because of the attraction of the collective good to the individual members.” The small number of elites in Costa Rica: come from similar backgrounds, move in the same circles, and see that their own individual interests (in the
name of financial gain or otherwise) can be achieved through working together. That is key to understanding how the carbon neutral pledge happened in Costa Rica.

*Class structure*

However, small size, combined with a small size of the elite coalition (in relation to the population), and a similar “social type” among elites has to be paired with an egalitarian class structure in order for elites to generously provide public goods to their people. Here’s why. In some contexts, a small state, combined with a high degree of corruption and neopatrimonialism, in which elites provide goods to other high ranking people who can confer benefits on those elites in the future, does the exact opposite of providing public goods (Van de Walle 2001). So if elites are not of an economic ranking that is drastically different from the people in the population, they will be contemplating the provision of goods to people to whom they are similar (Mahoney 2010: 197). So small state size, plus a small group of circulating elites, plus a low Gini index, can lead to cooperation and the provision of public goods.

At the same time, Costa Rica does not have a resource-based economy. While there is no doubt that elites are tied to specific interests, these interests do not run in contrast to the carbon neutral pledge. In fact, the opposite is the case. Take for example, the case of Oscar Arias Sanchez, president at the time of the carbon neutrality pledge. Oscar Arias is a descendent of one of the wealthiest families in Costa Rica, and thus a member of the coffee elite (Paige 1997). So while elites have connections to particular economic interests, the goals to satisfy these interests are *compatible* with climate mitigation, and do not run in contrast to mitigation. Elites in Costa Rica are not tied to
specific interests that would be inclined to block the political process on climate change issues. In this regard, Costa Rica is very different from the US, where elites’ ties to natural resource based extraction enterprises were responsible for the country’s decision to avoid ratifying the Kyoto Protocol (Fisher 2004).

Here, Ott’s work on small state size and democracy is relevant. Ott (2000) offers several explanations for why small population size of a state is associated with the state being more likely to be democratic and to remain democratic, several of which are relevant to the Costa Rica case. Based on her case study work from The Gambia and Trinidad & Tobago, Ott (2000: 203) claims that elites are central to the formation of democracy. As she found, in small states elites “… understand that the political realm is limited, and an enemy made today is likely to remain for the foreseeable future. Rather than burning their bridges, as so often occurs in larger states, elites in small countries interact in a cooperative fashion.” Of course, this cooperation of elites in small states can be either beneficial or damaging for the population. Elites might cooperate and pursue the production of public goods for their citizens. Or, “if there is no force in society to act as a check on the dominance of those elites” then they can become repressive (Ott 2000: 203).

Here is where the class structure comes in. A small circulating group of elites can cooperate, but the positive effects that these elites can confer upon members of society will be enhanced if there are checks on those elites. This is more likely in a society characterized by an egalitarian class structure.

Ostrom (2009) reminds us that there is also a cultural dimension to egalitarianism. As she puts it, “Users of all types of resource systems who share moral and ethical standards regarding how to behave in groups they form, and thus the norms of
reciprocity, and have sufficient trust in one another to keep agreements will face lower transaction costs in reaching agreements and lower costs of monitoring,” (Ostrom 2009). In other words, groups comprised of people who are similar find it easier to make shared decisions.

There is no evidence to suggest that people put up a fight against the idea of carbon neutrality. Here’s one possible explanation for why there has been little dissent against the idea of carbon neutrality. As stipulated by INTECO, the Costa Rican certifying agency, once a company decides to become carbon neutral, they do three things: 1) identify sources of emissions, 2) reduce emissions, and 3) compensate (pay for emissions they continue to emit). This three-step path means that there is a lot of flexibility for companies to do what they want in order to become carbon neutral. Companies are not in a position where they would have to reduce emissions below a fixed level, which might put them in a position where they would be forced to give up the use of certain products. This means that companies that are ‘going’ carbon neutral are not directly affecting the bottom line of another industry (i.e., a natural resource extraction company). So the carbon neutral goal was mutually beneficial for elites because it promotes their interests. The pledge was also not harmful to certain industries, since companies can, in theory at least, achieve carbon neutrality without directly affecting any other company.

**Governance**

Of course, the findings about size and class structure are related to governance, and the combination of these factors leads to successful cooperation. The class structure
influences the way in which elites provide public goods (Mahoney 2010) and smaller countries are more likely to be and more likely to remain democratic than larger ones (Ott 2000: 195). There are several reasons for this, some of which are applicable to the Costa Rica case. One of the reasons, described above, is that elites are more inclined to cooperate in small states. But the individual elites are not the only mechanism that can lead to democracy in small states. Rather, institutions are also part of the explanation. As she puts it, “Political institutions in small states are affected by the small scale social structure of these states. The executive, in particular, becomes a much stronger force relative to the other institutions in society,” (Ott 2000: 203). So in a small, democratic state, the leader of the executive branch has a lot of power. This does seem to have been the case in Costa Rica, as Oscar Arias was convinced that carbon neutrality was a good idea and organized a committee. He did not seek out approval for the idea from other groups of people. Furthermore, this extra power, Ott claims, might be “compounded” if the executive leader has done something extraordinary to gain “legendary status.” This also seemed to be the case in Costa Rica. Oscar Arias’s achievement of winning the Nobel Peace Prize gave Costa Rica a reason to be recognized at the global level. So Oscar Arias would be the perfect leader to make the carbon neutrality pledge.

One theme that came up in regards to the case of Costa Rica is the idea of being an island. As respondent #9 put it, Costa Ricans have literally closed themselves in (“nos enceramos”) in San Jose and from the rest of Central America, but we “didn’t forget about the world,” (“pero no olvidamos del mundo”). This replicates what others have found. According to Bull (1999: 962), a prevailing idea during the Monge presidency

---

22 According to population. See Ott (2000), chapter 1 for a review of the literature on different metrics for measuring smallness.
(1982-1986) was that, “Costa Rica is not a part of the Central American problem, but Central America is part of Costa Rica’s problem.” Costa Rica’s lack of engagement in the Central American Federation put the country on a path to avoid involvement in regional wars (Mahoney 2010). This isolationist dimension of governance likely also influences the extent to which cooperation is possible in Costa Rica. If people believe Costa Rica is an island, then the other elites, the other members of the power elite, really are the only people with whom other elites can collaborate to get things done. As Ott (2000: 203) put it, the “political realm is limited” in small states.

NGOs

While there is a high degree of network closure (Sandstrom 2011) among Costa Rican elites, these elites also have the ability to traverse structural holes (Burt 1997). The combination of these two dynamics allows for cooperation and effective management of a resource (Sandstrom 2011). The case of the Minister of the Environment serving as the leader of the governing council of UNEP at the time is a good example of this. Additionally, the leader of the Peace with Nature coalition served as part of the group that represented Costa Rica at previous global climate change summits. In addition, many of these people have advanced degrees from the US and/or experience talking about the issue of carbon neutrality or other Costa Rican environmental issues to audiences in the US. So this group has connections to other parts of the world that they can capitalize on.

The density of NGOs should be related, theoretically, to the idea of traversing structural holes. In other words, it would make sense that INGOs connect people in carbon neutral pledging nations to people in other parts of the world who are active on
these issues. That does not seem to have been the case in Costa Rica. INGO advocates were not pushing Costa Rica government officials to do more on climate change. INGO advocates also were not part of the strategic action coalition (Fligstein and McAdam 2012) that came together to work on Peace with Nature initiative. So the relationship between INGO presence and the carbon neutral pledge is nuanced. NGO presence in Costa Rica enabled debt-for-nature swaps (Deacon and Murphy 1997), of which Costa Rica was an early adopter (Thapa 1998: 257). So the history of having a lot of INGOs bolstered Costa Rica’s stance on a variety of environmental issues.

While INGO advocates were not directly involved in carbon neutrality, INGOs had some indirect influence on the pledge. International NGO’s role in tackling other environmental issues during the late twentieth century in Costa Rica helped the country deal with these issues (i.e., deforestation), and thus opened up the opportunity for the country to take on a different challenge: climate change mitigation. INGO involvement in other issues led elites in Costa Rica to say- we already took care of deforestation, so we don’t need the Clean Development Mechanism of the Kyoto Protocol; rather, we need our own thing, and that thing is carbon neutrality.

II. What this research suggests about the divers of mitigation more generally

As Ehrhardt-Martinez, Rudel, Norgaard, and Broadbent (2015) explain, organizations such as the IPCC and the National Academy of Sciences promote the use of new energy technologies to reduce emissions in these contexts. This implies that the broader societal efforts to mitigate emissions have by and large been neglected. The
findings from this research illuminate one social formation that is conducive to the formation of bold climate change strategies.

The approach used in this dissertation could also be used to study patterns of adoption of different kinds of standards. For example, in recent years countries including Iceland and New Zealand have adopted individual transferable quotas (ITQs) for fish stocks at the national level (OECD 2011). An ITQ gives a person a right to harvest a percent of the total allowable catch (TAC) of a fishery. In other words, ITQs privatize the common property of the fishery and are a mechanism to avoid the tragedy of the commons property problem of fisheries (Arnason 2008). Future research could explore whether the same factors that drive countries to invest in the public good of carbon neutrality pledges are the same as those that push countries with fishing communities to adopt public goods to help fisheries, such as ITQs.

III. What this research on carbon neutral pledges suggests about INDCs

This final section theorizes how the findings about carbon neutral pledging nations might inform our understanding of a recent development in climate politics. In preparation for the 2015 Conference of the Parties (COP) negotiations in Paris, countries wrote Intended Nationally Determined Contributions (INDCs). In INDCs countries specified how they would voluntarily mitigate emissions, how they would adapt to climate change, and what they would do if they had more money (Ciplet, Roberts, and Khan 2015: 94). INDCs represent a significant shift in climate change politics because they are not mandatory, all countries (not just wealthy Northern ones) are expected to write them, and they do not include legally binding agreements to mitigate emissions by
specific years. Despite the fact that INDCs were not mandatory, nearly all countries submitted them. By the end of December 2015, 160 INDCs had been submitted, representing the pledges of 187 countries\(^{23}\) (World Resources Institute 2015). This means that 96% of the world’s countries\(^{24}\) made pledges, and according to the World Resources Institute (2015), these INDCs cover 98.6% of global emissions. The vast majority of INDCs include both mitigation and adaptation commitments, while a small number include only mitigation pledges.

While there is concern about the environmental effects that will occur if all countries fulfill what they pledged to do\(^{25}\), by and large the Paris agreement has been heralded as a major success (i.e., Gillis 2015). First, the fact that so many countries submitted them is in itself an achievement. Second, there are structures in place to keep the current the INDC governing tool in place into the foreseeable future. By 2020, parties that submitted INDCs are expected to communicate a new INDC and to do so at five-year intervals into the future (UNFCCC 2015: 4).

\(^{23}\) The discrepancy between the two numbers is a result of the 28 countries of the European Union submitting one INDC.

\(^{24}\) 187 divided by the 195 independent countries (from the list used in chapter 3 that is produced by the U.S. Department of State) equals 95.897%.

\(^{25}\) Even if all countries do what they pledged to do, there is concern that global warming will surpass a 2-degree temperature increase above pre-industrial levels. According to the UNFCCC (2015: 3): “… the estimated aggregate greenhouse gas emission levels in 2025 and 2030 resulting from the intended nationally determined contributions do not fall within least-cost 2 °C scenarios but rather lead to a projected level of 55 gigatonnes in 2030, and also notes that much greater emission reduction efforts will be required than those associated with the intended nationally determined contributions in order to hold the increase in the global average temperature to below 2 °C above pre-industrial levels by reducing emissions to 40 gigatonnes or to 1.5 °C above pre-industrial levels by reducing to a level to be identified in the special report referred to in paragraph 21 below;”
One of the key issues going forward with the INDC structure will be the issue of whether nation-states are going to do what they pledged to do. The findings from this dissertation provide several ideas about the kinds of states that would make ambitious commitments and fulfill such commitments. First, the findings suggest that countries at smaller levels of scale should be more inclined to fulfill their pledges. This might mean that small states, in terms of both land area and population, might be better able to meet their pledges. Of course, small states are often small island states, but even these countries have made ambitious mitigation pledges both in the years before Paris (Ciplet, Roberts, and Khan 2015) and at Paris. Consider, for example, the INDC of Dominica, a small island nation in the Caribbean. Dominica pledges to “progressively reduce total gross greenhouse gas (GHG) emissions below 2014 levels... at the following reduction rates: 17.9% by 2020; 39.2% by 2025; and 44.7% by 2030” (World Resources Institute 2015). Mitigation pledges by these nations raise interesting questions about whether these kinds of states should even be making mitigation pledges and receiving significant funds from international donors to support mitigation efforts (Brechin, working paper).

While smaller groups might reach decisions more quickly (Olson 1965), this doesn’t quite answer the question of why small countries would make and/or fulfill ambitious pledges. One possible reason is that ambitious INDC pledges are a kind of political posturing, in which countries that are not responsible for causing the problem of climate change send signals to the higher emitting countries to act. In this way, ambitious pledges might be part of the process of creating “new identities” (Ciplet, Roberts, and Kahn 2015: x) in the post-Kyoto world.
The results about scale might seem impossible to replicate elsewhere. A country with a large population can’t become a small country overnight. However, Ott (2000) wonders whether population size is in fact a proxy measure for decentralization. If it is, this would suggest that nations with large populations could get to ‘yes’ on mitigation if power and decision-making abilities are distributed, and thus do not only take place at the highest political levels. This means that we might see social groups at smaller levels of scale within a nation-state be inclined to act. There are already several examples of climate mitigation action happening at smaller levels of scale in the US. For example, the Regional Greenhouse Gas Initiative (RGGI), comprised of nine states[^26] in the northeast is representative of this kind of effort. Following a recent program review, the RGGI follows a plan similar to the INDC structure of increasing the ambition of pledges over time. Specifically, the RGGI has set a goal of reducing emissions from the power sector of those states by 2.5 percent every year from 2015-2020 (RGGI nd). Another example can be found among the efforts of cities. The December 2015, legally-binding commitment by the city of San Diego to transition to using 100% renewable energy by 2035 is representative of these kinds of mitigation pledges which are likely (Richtel 2015).

Before moving on with explaining the other factors the might push countries to make and fulfill ambitious INDCs, it is worthwhile to pause and examine San Diego’s commitment more closely. Several quotes from a recent article on the commitment illustrate the striking similarity between words used by people in Costa Rica and people used in San Diego to describe the pledges. According to Richtel (2015), the mayor of San

[^26]: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont
Diego (Kevin L. Faulconer) was described as saying “San Diego’s ocean, sunshine and other environmental attributes were “in our fabric, our DNA, who we are.”” This sounds similar to some elites in Costa Rica describing the carbon neutral pledge as an expression of the kind of place Costa Rica is. Second, the mayor was quoted as saying: “It’s not a partisan issue at all,” he said. “It’s about putting a marker down. It’s the right thing to do.” This reflects the kind of absence of political conflict in Costa Rica that made the carbon neutral pledge possible. Third, an author of an earlier draft of city’s commitment said the following: “It’s up to cities to blaze new trails. We’re just laying out the pathway for how to get these massive reductions worldwide.” This sounds similar to some interviewees’ description of the country’s pledge a “workable model” for other states to follow. Finally, Evan Gillespie, a director with the Sierra Club, described the city’s pledge as a “challenge” for other cities. He was quoted as saying, “We need others to see this and say, ‘Game on,’ ” he added. “We need places like Los Angeles, like San Francisco and New York, to step up.” This reflects the same idea that some respondents expressed about how Costa Rica’s pledge was sending a signal for other states to act.

Another factor that might incline nation-states to fulfill the commitments in their INDCs is the degree of equality in the class structure. The absence of a large, landed elite in Costa Rica was formative in the development of the relatively egalitarian class structure (Mahoney 2010, Paige 1997). A country with a smaller gap between its wealthiest and poorest citizens might invest in ambitious INDCs for several reasons. We know that societies with higher degrees of social similarity have an easier time providing public goods (Ostrom 2009). More specifically, in more egalitarian societies, elites are contemplating the provision of public goods to people that are similar to themselves.
(Mahoney 2010: 197). This means that elites might see the INDC as a way to improve all of the nations’ citizens for the near and distant future.

Third, the findings about the drivers of carbon neutral pledges suggest that good governance should push nations to fulfill their INDC commitments. Places with democratic polities (Dolsak 2009), as opposed to those with repressive regimes (Roberts 2006), should be more inclined to fulfill their commitments. As Battig and Bernauer (2009) explain, democracy has a positive effect on the supply of public goods. The opportunity costs for environmental protection are lower for voters in a democracy and in democracies, the ratio of the governing body to the governed is larger, in comparison to other types of regimes.

It may also be that countries in which there is strong public opinion in favor of mitigation and/or adaptation will be likely to fulfill their commitments. There is considerable support for this idea in the U.S. context (Burstein 1998, 2003, 2006, 2010), although under some conditions, public opinion can significantly increase the number of laws passed on an issue when shifts in public opinion are amplified by protests on that same issue (Agnone 2007). As described in chapter 5, public opinion in Costa Rica shows that people are very concerned about climate change, although the degree to which this concern translated into the political pledge is unclear.

Finally, the findings from this research suggest that countries with a greater density of environmental INGOs should have a greater propensity to fulfill their commitments. Again, the governance and NGO factors are related because transnational social movement organizations tend to work in stable, democratic countries where political elites are more inclined to give NGO advocates a hearing in policy formulation.
processes (Lewis 2000). One would expect that following Paris, NGO advocates in stable democracies would be inclined to do one of two things. They might either advocate that the government fulfill its commitment, or they might work closely with government as part of a strategic action coalition (Fligstein and McAdam 2012) to get the work done.

Although the findings from this research focused on the role of INGOs, other recent research suggests that other indicators of civil society activity might be associated with INDC activity. Specifically, building on the work of Gramsci, Ciplet, Roberts, and Khan (2015) argue that transnational coalitions of actors can shift states’ positions on climate change. This finding suggests that countries that have witnessed significant mobilizations of social groups might have not only made more ambitious pledges, but also be in a good position to actually fulfill the commitments.

The case of the EU is very interesting. As explained above, the 28 nations of the EU put forth one joint INDC. This raises some interesting questions about whether the Union will fulfill its commitment. The EU was an early leader on climate change following the Kyoto Protocol, by not only planning to meet its Kyoto target, but also for establishing a cap and trade program (Harrison and Sundstrom 2007: 14). The question now is can the EU be a leader again. The results from this research suggest that alone, some of these countries could be expected to fulfill their mitigation commitments due to their small size, relatively egalitarian class structure, and good governance. As a joint, 28-nation unit, however, the challenge could be more difficult.

Despite these expectations, it is also important to keep in mind that the degree to which any nation-state will fulfill its INDC commitment is also related to the individual history in that state, and cannot be fully explained by the institutional profile outlined
above. This was the case with Costa Rica. As chapters 4 and 5 showed, there are factors unique to Costa Rica that pushed the country to make the carbon neutral pledge. For example, the predominance of the tourism industry and thus government’s efforts to bolster that part of the economy was another driver of the carbon neutral pledge, even though it wasn’t included in the fsQCA analysis.
Methodological Appendix

This methodological appendix describes the methods used in this research: fuzzy-set qualitative comparative analysis, interviews, and archival research.

Fuzzy-set qualitative comparative analysis

I use fsQCA software, version 2.5 (Ragin and Davey 2014). There are two steps in fsQCA. The first is to create a truth table. The truth table allows me to specify the configurations, or the combinations of causal variables, to keep in the analysis. In the first iteration of the truth table, I use the four key conditions: energy, travel, effectiveness, and organizations. Configurations become relevant based on the number of cases in each sector of the vector space (Ragin, Strand, and Rubinson 2008). Configurations without any observations are deleted from analysis. Then I distinguish configurations that are consistent subsets of the outcome from those that are not. Consistency cutoffs for combinations of causal conditions should be above .75; values below that threshold indicate significant inconsistency (Ragin, Strand, and Rubinson 2008). Because I am analyzing an emergent political issue, I use a lower consistency cutoff. I assigned a 1 (positive case) as the outcome value to every configuration with a consistency cutoff of .49 or greater and a 0 (negative case) as the outcome value to configurations with cutoffs less than that. In the second step of the analysis, I use the standard analysis function.27

27 The ‘Analysis’ function in the fsQCA software creates three solutions: complex, parsimonious, and intermediate. It also calculates two measures. Consistency measures the degree to which multiple cases will share the same combination of conditions and display the same outcome. There can be many subsets to every outcome, so this value may be quite small. In contrast, coverage represents the degree to which the outcome can be accounted for, or explained by, each condition and the combination of conditions (Ragin 2008; Ragin, Strand, and Rubinson 2008, 85-87).
Here, I select how each variable should theoretically affect the dichotomous outcome (Ragin, Strand, and Rubinson 2008).

*fSQCA Results*

I only describe the results of the parsimonious solution because this iteration will include the causal conditions that are absolutely necessary to distinguish positive cases (adopters) from negative cases (non-adopters) (Ragin, Strand, and Rubinson 2008, 70). These four causal conditions do not yield very robust results. The consistency cutoff is just shy of .5. The analysis reveals one combination of conditions that must be present for states to make pledges:

   effective*organizations

Frequency cutoff: 1
Consistency cutoff: 0.493550
Solution coverage: 0.456507
Solution consistency: 0.500003

These results indicate that states must have highly effective governments and an abundant presence of global environmental NGOs to adopt a pledge. The solution coverage value of .46 indicates that I am accounting for a little less than half of the distinction between adopters and non-adopters. I ran the analysis a second time, this time including the indicator of population. I drop the indicators of energy and travel because they are not necessary conditions. The parsimonious solution is:

   effective*organizations*~population

Frequency cutoff: 1
Consistency cutoff: 0.585647
Solution coverage: 0.413471

Solution consistency: 0.585647

Effective governance, an abundant presence of global environmental NGOs, and small populations are the necessary conditions under which states make carbon neutral policies. Although inconsistency remains, these results are more robust than those in the first iteration because the consistency cutoff has increased to about .59. The total solution coverage has decreased, but only by four hundredths of a point. I include below a description of how I calibrated the conditions.

Specifying the cut-points for analysis happened through an iterative process. First, I tried a three-value fuzzy set indicating: 1-fully in; 0.5- neither fully in nor fully out; and 0- fully out (Ragin 2009: 91). To do this, I used the 95 percentile as fully in, the mean as neither in nor out, and the 5 percentile as fully out. The fuzzy set values clumped at the extremes (toward 0 and 1). I refined the measurement by creating six-value fuzzy sets using the indirect method of calibration (Ragin 2008: 94-97; C. Ragin, personal communication, July 2014). This more nuanced measurement strategy did not improve the solution coverage of the analysis. I went back and created a new three-value fuzzy set, using fully in (1) at the 90 percentile, neither in nor out (0.50) at the median, and fully out (0) at the 10 percentile. I achieved the best fit with this revised three-value fuzzy set. Table VIII shows the values on the calibrated fuzzy sets.
Table VIII: Values on the calibrated fuzzy set variables

<table>
<thead>
<tr>
<th>Causal condition</th>
<th>Calibration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (rounded to nearest tenth)</td>
<td>10%: 0</td>
</tr>
<tr>
<td></td>
<td>Median: 12854.6</td>
</tr>
<tr>
<td></td>
<td>90%: 233791.7</td>
</tr>
<tr>
<td>Travel (rounded to nearest tenth)</td>
<td>10%: 5.6</td>
</tr>
<tr>
<td></td>
<td>Median: 10.7</td>
</tr>
<tr>
<td></td>
<td>90%: 24.6</td>
</tr>
<tr>
<td>Effective (rounded to hundredth)</td>
<td>10%: -.88</td>
</tr>
<tr>
<td></td>
<td>Median: -.08</td>
</tr>
<tr>
<td></td>
<td>90%: 1.85</td>
</tr>
<tr>
<td>Organizations</td>
<td>10%: 0</td>
</tr>
<tr>
<td></td>
<td>Median: 1</td>
</tr>
<tr>
<td></td>
<td>90%: 3</td>
</tr>
<tr>
<td>Population</td>
<td>10%: 297576</td>
</tr>
<tr>
<td></td>
<td>Median: 4623291</td>
</tr>
<tr>
<td></td>
<td>90%: 76,200,000</td>
</tr>
</tbody>
</table>

Fieldwork: Interviews and archival research

Fieldwork took place in Costa Rica during research trips in August 2013 and July 2015. By working through a contact at Columbia University, I was able to do my first interview via Skype with the Director of Sustainability for Dole Food Company, Inc. who was based in Germany. This is the only interview I conducted when not physically present in Costa Rica. Then, during the first research fieldwork trip, I met with faculty in three different universities to establish initial contacts. Because the carbon neutral pledge was made as a political announcement, I wanted to start my research process by speaking with key figures in government. During this first trip, I also visited the office of the Ministry of the Environment in San Jose to find someone to talk with about carbon neutrality and to identify potential archival sources on carbon neutrality. At this office, I was redirected to the DCC (Direccion de Cambio Climatico), or the Climate Change Center in San Jose, which is the branch of the Ministry of the Environment that deals
with issues related to climate change. An employee at this office suggested several people to speak with about carbon neutrality who were in San Jose.

Between the August 2013 and July 2015 research trips, I accessed documents online that told me something about the process leading up to the carbon neutral commitment or about the period following the commitment. In this way, I adopted the method of “progressive contextualization,” in which I began with a specific action (the pledge) and slowly zoomed out to explore the forces that led to the pledge and the activities that have happened since the pledge was made (Vayda 1983). Using the method of progressive contextualization also helped me fill in the relevant actors and events in the narrative leading to the commitment. While I did not end up using every single one of these documents, reading them informed the way in which I thought about the case. I have included a list of these documents below. At the same time, I performed the fsQCA analysis and then began to read more secondary sources (many of which are cited in Chapter 4) to help explain the particular case of Costa Rica’s pledge.

I returned to Costa Rica for the second research trip in July 2015. I began by returning to the DCC (Climate Change Center) of the Ministry of the Environment. I conducted a second interview with an employee at the DCC to achieve three goals: to find out if I could get access to the notes from workshops that happened during the time leading up to the carbon neutrality commitment, to get updated contact information for several prospective respondents, and to discuss how relevant the carbon neutrality pledge was in current political discussions. He indicated that the notes from the workshops were being held by AECID, the Spanish Agency for International Development Cooperation, who had helped to finance the carbon neutrality initiative. Although exploring the
perspectives of people involved in bilateral aid assistance was not an original aim of the project, it seemed important to speak with someone from AECID to see whether I could get a copy of workshop notes. However, once I spoke with someone at AECID, I was informed that because the project was ongoing (meaning that the goal of carbon neutrality has not yet been met), the workshop notes could not be shared. I found the next few people to interview based on recommendations from the initial interview at the Center for Climate Change. A list of all people interviewed for this research, along with their institutional affiliations, is included in Table V in chapter 4.

All interviews in Costa Rica were conducted in person, except for one, which was conducted via Skype with someone far outside the city limits. During the second research trip, I contacted every respondent (except for one) ahead of time via email to establish a time and place for the interview. Interviewees were contacted in Spanish and asked if they would be interested in participating in a study on carbon neutrality. When each interview began, it was either obvious that it would take place in Spanish or discussed. Fifteen of the twenty-two interviews were conducted in Spanish, though those conducted in English always included some Spanish. The interviews ranged in length from 30 minutes to 2 hours and 15 minutes, with an average time of 65 minutes. All interviewees during the second research trip were provided with a consent form in the language in which the interview had taken place.

Nearly every interview began with the respondent asking me why I was in Costa Rica or what my project was about. Almost every interviewee had strong feelings about carbon neutrality, and started talking about one particular aspect of the pledge. Over the course of the interview, I would try to ask the same general questions, making the
interviews take on a semi-structured format. These questions are listed below. The nature/wording of the questions changed slightly over the course of the process of gathering information, as new information came to light.

The interviews were not recorded because the target population for interviewees included high-ranking political figures, some of whom were still in positions of power at the time of the interview. The presence of a recorder may have meant officials would not want to conduct the interview, or worse, that they would do the interview but would self-censor what they said. Therefore, notes were taken in Spanish and English during every interview and then were typed into fieldnotes as soon as possible after the interview, to include what people said as well as details about the setting, such as descriptions of where the interview took place and of other people that were present. All fieldnotes were kept in English, except for direct quotations or words without direct translations.

At the conclusion of every interview, I asked two questions: do you have documents/notes/records related to carbon neutrality that I could analyze, and can you think of anyone else that I should speak with about carbon neutrality? The answer to the first question was almost always ‘no.’ The process of finding archival documents usually happened more organically than this. As described above, I had been collecting documents online for several years to help understand the case. However, interviewees often mentioned specific historical documents that I should read and would tell me where I could find it. In this way, the process of conducting interviews informed the collection of historical documents, and vice versa. All documents except for one (a copy of the ECODES report) were found online. I was able to request a copy of the ECODES document from the Rutgers library. A list of all archival documents is listed below. The
list is organized by the date I accessed it and by the way in which I came to realize the
document was important for the study. Occasionally, an interviewee had specific
documents to share with me and was able to provide them on the spot or email them to
me immediately following the interview. These specific documents are also listed below.

After the research was completed, I created a chart that showed the three major
themes from each interview. Then, I created a document that listed these themes, and
started to fit these themes together. I then started to write about the themes as I saw how
they fit together.
Interview Schedule

What kind of work do you do? What is the goal of the organization you work for?

What kind of place is Costa Rica?

I am interested in learning about Costa Rica’s pledge to become carbon neutral. What can you tell me about this pledge?

What does this pledge mean to you?

Who was involved in establishing this pledge?

When was the pledge announced? What else was happening at this time?

Why do you think the pledge was signed at this time?

Is Costa Rica the first country to make a carbon neutral pledge?

Are there other countries that have also made carbon neutral pledges? What do you know about these other pledges? Has the Costa Rican government worked with these other countries?

What does the plan consist of?

How do you think this plan will affect Costa Rica in the future?

Besides the carbon neutral pledge, what are some other environmental policies in Costa Rica?

How do you think this pledge fits with other environmental policies in the country?

Was your organization involved with the establishment of the pledge?

How has your organization been affected by the pledge?

Does your organization have documents, meeting minutes, or plans that were produced before the pledge was made in 2007?
Consent to Participate in Research Study

You are invited to participate in a research study conducted by Julia Flagg, a graduate student in the Department of Sociology at Rutgers University in New Jersey, USA. The purpose of this study is to understand the conditions under which Costa Rica adopted a pledge to become the world’s first carbon neutral country. This research seeks to draw upon the expertise of about 10 experts in 4 sectors: government (including the Ministry of the Environment), industry, science, and civil society through in-person interviews. Each interview should last between 20 and 60 minutes. The interviews follow a protocol and use open-ended questions.

Participation in this study is voluntary. You may choose not to participate and you may refuse to answer any questions. You can stop the interview at any time.

There are minimal risks in participating in this study. This research is confidential. Confidential means that the research records will include some information about you (your name, place of work, and contact information). This information will be stored in such a manner that there is some linkage between your identity and the responses in the research. This information will be kept confidential by limiting access to the research data and keeping it in a secure location. Data will be stored in a locked cabinet and/or a password-protected computer.

Julia Flagg, her advisor, and the Institutional Review Board (a committee that reviews research studies in order to protect research participants) at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. All study data will be kept indefinitely.

If you have any question about this study, you may contact Julia Flagg at 1-201-232-8366 or julia.flagg@rutgers.edu or the faculty advisor for this project, Dr. Thomas Rudel at 1-848-932-9238 or rudel@aesop.rutgers.edu. If you have questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at:

Institutional Review Board
Rutgers University, the State University of New Jersey
Liberty Plaza / Suite 3200
335 George Street, 3rd floor
New Brunswick, NJ 08901
Telephone: 732-235-9806
Email: humansubjects@orsp.rutgers.edu

Your signature signifies that:
• You understand the information in this consent form
• You have had the opportunity to ask the researcher questions and mention any concerns you may have
- The researcher responded to your questions and concerns
- You understand the study and its associated benefits and risks

<table>
<thead>
<tr>
<th>Signature of participant</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature of principal investigator</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Formulario de consentimiento para un estudio de investigación

Está invitado(a) a participar en un estudio de investigación realizado por Julia Flagg, una estudiante de postgrado del departamento de sociología en la Universidad de Rutgers (Nueva Jersey, EEUU). El propósito del estudio es entender las condiciones históricas en que Costa Rica decidió convertirse en el primer país carbono neutral. Esta investigación hace uso de la experiencia de 10 oficiales en 4 sectores: gobierno (incluso el Ministerio del Medio Ambiente, industria, científicos, y miembros de la sociedad civil por medio de entrevistas en persona. Cada entrevista debe durar entre 20 y 60 minutos. Las entrevistas siguen un protocolo con preguntas abiertas.

Su participación en este estudio es voluntaria. Usted puede elegir no participar en este estudio sin consecuencia alguna. Si decide participar, tiene el derecho de negarse a responder a cualquiera pregunta. También puede detener la entrevista y retirarse del estudio cuando quiera.

Los riesgos que su participación involucra son mínimos. Esta investigación es confidencial, que significa que la información de las entrevistas va a incluir información personal (su nombre, puestos de trabajo, información de contacto). Esta información será protegida, pero serán conexiones entre su identidad y la información en su respuestas. Para mantener la confidencialidad, sus respuestas serán guardadas en un gabinete bajo llave y/o en una computadora protegida con una clave de seguridad.

La investigadora, su asesor, y el concejo institucional de la Universidad de Rutgers (un comité que revisa los estudios de investigación para proteger los sujetos) serán los únicos que tendrán acceso a esta información identificativa, con excepciones impuestas por la ley. En reportes publicados o presentaciones para conferencias, solamente resultas colectivas serán presentadas.

Si tiene alguna pregunta acerca de este estudio, puede llamar a Julia Flagg a 1-201-232-8366, o mandarle un correo a julia.flagg@rutgers.edu. Además, puede contactar al asesor de esta investigación, Dr. Tomás Rudel a 1-848-932-9238 o rudel@aesop.rutgers.edu. Si tiene preguntas acerca de sus derechos como un sujeto de esta investigación, puede contactar al administrador de los programas patrocinados por la Universidad de Rutgers:

Institutional Review Board  
Rutgers University, the State University of New Jersey  
Liberty Plaza / Suite 3200  
335 George Street, 3rd floor  
New Brunswick, NJ 08901  
Teléfono: 732-235-9806  
Correo electrónico: humansubjects@orsp.rutgers.edu

Su firma en este formulario significa que:

• Entendió la información que se le proporcionó en este formulario.
• Tuvo la oportunidad de hacer preguntas a la investigadora y mencionar cualquier preocupación.
• La investigadora le respondió a sus preguntas y preocupaciones.
• Considera que entiende el estudio de investigación, y los beneficios y riesgos potenciales que están involucrados.

La firma del participante ________________ Fecha ________________

La firma de la investigadora principal ________________ Fecha ________________
Table IX: Archival source by date of retrieval with citations

<table>
<thead>
<tr>
<th>Type of source</th>
<th>Date retrieved</th>
<th>Source citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecha</td>
<td>Autor/a</td>
<td>Título/Descripción</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Date</td>
<td>Source</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>
References


Dietz, Thomas; Gardner, Gerald T.; Gilligan, Jonathan; Stern, Paul C.; and Michael P. Vandenbergh. 2009. “Household actions can provide a behavioral wedge to rapidly reduce U.S. carbon emissions.” Proceedings of the National Academy of Sciences 106(44), November.


Gould, K. A., Pellow, D. N., & Schnaiberg, A. (2004). “Interrogating the treadmill of production: Everything you wanted to know about the treadmill but were afraid to ask.” *Organization & Environment* 17(3):296-316.


Ragin, Charles C. and Sean Davey. 2014. *Fuzzy-Set/Qualitative Comparative Analysis 2.5*. Irvine, California: Department of Sociology, University of California. ([http://www.socsci.uci.edu/~cragin/fsQCA/software.shtml](http://www.socsci.uci.edu/~cragin/fsQCA/software.shtml)).


Scott, James C. *Seeing like a state: How certain schemes to improve the human condition have failed*. New Haven, CT: Yale University Press.


StataCorp. 2013. *Stata Statistical Software: Release 13*. College Station, TX: StataCorp LP.


Zúñiga, Jorge M. Rodríguez. 2003. “Paying for forest environmental services: the Costa Rican experience.” *Unasylva: An international journal of forestry and forest industries*. FAO- Food and Agriculture Organization of the United States. 54(212):31-33. ([http://www.fao.org/docrep/005/y4744e/y4744e08.htm](http://www.fao.org/docrep/005/y4744e/y4744e08.htm)).