

Green Economy Governance:
Transforming States and Markets through the
Global Forest Carbon Trade in California and Chiapas

by

Chad Monfreda

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Approved August 2015 by the
Graduate Supervisory Committee:

Clark Miller, Chair
James Hurlbut
Kenneth Abbott

ARIZONA STATE UNIVERSITY

December 2015

ABSTRACT

This dissertation explores the intersection of two major developments in global environmental governance: the vision for a Green Economy and the growing influence of non-state actors. The work draws on multi-sited thick description to analyze how relationships between the state, market, and civil society are being reoriented towards global problems. Its focus is a non-binding agreement between California and Chiapas to create a market in carbon offsets credits for Reducing Emissions for Deforestation and forest Degradation (REDD). The study draws on three bodies of scholarship. From the institutionalist study of global environmental politics, it uses the ideas of orchestration, civil regulation, and private entrepreneurial authority to identify emerging alignments of state and non-state actors, premised on an exchange of public authority and private expertise. From concepts borrowed from science and technology studies, it inquires into the production, certification, and contestation of knowledge. From a constitutionalist perspective, it analyzes how new forms of public law and private expertise are reshaping foundational categories such as territory, authority, and rights. The analysis begins with general research questions applied to California and Chiapas, and the international space where groups influential in these sites are also active: 1) Where are new political and legal institutions emerging, and how are they structured? 2) What role does scientific, legal, and administrative expertise play in shaping these institutions, and vice versa? And 3) How are constitutional elements of the political order being reoriented towards these new spaces and away from the exclusive domain of the nation-state? The dissertation offers a number of propositions for combining institutionalist and constructivist approaches for the study of complex global governing arrangements. It argues that this

can help identify constitutional reconfigurations that are not readily apparent using either approach alone.

ACKNOWLEDGMENTS

My deep and sincere appreciation goes to the many teachers, colleagues, friends, and family members who have seen me through a long and winding journey towards this dissertation, as those travels have progressed across schools, cities, states, and—I dare say—decades. In particular, I would like to thank my committee members: my chair, Clark Miller, for his indispensable attention and mentorship, and for the inspiration he provided to pursue my long-standing fascination with the power of science and technology to transform ourselves and the planet; Ken Abbott, for broadening my conceptual reach with insights from international legal scholarship and for sharpening my thinking on how institutions and organizations matter for planetary change; and Ben Hurlbut, for his ever-incisive prompts to probe further into areas I had thought settled but found beckoning deeper critical and ethical reflection. Heartfelt appreciation also goes to my many colleagues and companions who provided comments, support, and intellectual community over the years this project took shape, among them Carlo Altamirano-Allende, Monamie Bhadra Haines, Antonio Callejas Lopez, Jen Fuller, Paul Hansen-Mitev, Christine Luk, Sharlissa Moore, Tracey Osborne, Shobita Parthasarathy, Aaron Soto-Karlin, and Brenda Trinidad. This work was made possible with extensive institutional and financial support from the Consortium for Science, Policy & Outcomes (CSPO), NSF IGERT in Urban Ecology, Arizona State University Graduate College, and Social Science Research Council (SSRC).

TABLE OF CONTENTS

	Page
LIST OF TABLES	xiii
LIST OF FIGURES.....	xiv
LIST OF ACRONYMS & ABBREVIATIONS.....	xv
CHAPTER	
1 INTRODUCTION.....	1
I. Introduction.....	1
II. Background.....	4
II.1. REDD+ and the Green Economy	4
II.2. Sub-national Leadership for Green Transformation	7
III. The Argument: The Challenge of Green Transformation.....	15
III.1. Purpose	15
III.2. Main Theoretical Findings.....	17
III.3. Narrative Arc	21
IV. Three Research Questions	27
V. Methods	30
V.1. Historical Multi-sited, Interpretive Analysis.....	30
V.2. Site Selection and Data Collection.....	31
VI. Theorizing Global Projects	34
VI.1. Structure, Institutions, and Comparative Politics	35
VI.1.1. Institutionalism	35

CHAPTER	Page
VI.1.2. Institutional Structure: Heterogeneity - Groups – Collectives.....	37
VI.1.3. Vertical Comparisons: Single States - Federalism - Laboratories of Innovation.....	39
VI.1.4. Horizontal Comparisons: Sub-national Partnerships- Transnationalism.....	41
VI.2. Constructivism – Knowing and Governing.....	44
VI.2.1. Constructivism.....	44
VI.2.2. Constructing Governing Regimes – Techniques of Globalization.....	47
VI.3. Globalization and Constitutional Change.....	51
VI.3.1. Re-thinking Globalization	51
VI.3.2. Globalism - Science and Administration in the Global Environmental Imagination.....	53
VI.3.3. Constitutional Change	56
VI.3.4. A Framework for Analyzing Globalization and Constitutional Change - Territory/Authority/Rights - Capabilities/Organizing Logics/Tipping Points.....	58
VII. Summary of Chapters.....	61
Part I. A Global Policy History of REDD+ in the UNFCCC and Voluntary Carbon Market	61

CHAPTER	Page
Chapter 2 – Calculation, Law, and Scale	61
Chapter 3 – Standards of Trust in the Voluntary Carbon Market	62
Part II. Making Sub-national Carbon Markets in California and Chiapas.....	64
Chapter 4 – Carbon Territory.....	64
Chapter 5 – Carbon Authority.....	66
Chapter 6 – Carbon Rights.....	68
2 CALCULATION, LAW, AND SCALE	71
I. Introduction.....	71
II. Theorizing Capabilities, Organizing Logics, and Tipping Points	72
III. Legal and Technical Capabilities for REDD+.....	74
III.1. Extant Capabilities for Global Law-making: The UNFCCC and REDD+	74
III.1.1. A Problem of Missing Global Teeth.....	75
III.1.2. The REDD+ Rulebook.....	78
III.2. Emergent Technical Capabilities for Global Calculation: Three Ways to Calculate a Carbon Credit	82

CHAPTER	Page
III.2.1. The Rise and Fall of Deforestation in the Clean Development Mechanism: The Local Project Scale.....	83
III.2.2. Avoiding Deforestation with Compensated Reduction: The Jurisdictional Scale.....	89
III.2.3. The Return of Forest Projects: Nesting Projects in the Jurisdictional Scale	95
IV. Calculation, Law, and Organizing Logic	106
IV.1. Constitution of Scale.....	109
IV.1.1. Causation and Agency	112
IV.2.1. Participation	116
IV.2. Path Dependence	117
V. Conclusion	120
3 STANDARDS OF TRUST IN THE VOLUNTARY CARBON MARKET	122
I. Introduction.....	122
II. Theorizing the Emergence of Calculative Capabilities.....	123
II.1. A Problem for Prototypes.....	123
II.2. Civil Regulation	127
III. Building Capabilities for Civil Regulation	129
III.1. Calculating Carbon Credits.....	129
III.1.1. A Babel of Standards	129
III.1.2. Consolidating Standards and Standard-Setters in the VCS	132

CHAPTER	Page
III.1.3. Terra Global, Wildlife Works, and a ‘Watershed Moment for REDD Projects Everywhere’	134
III.1.4. Shaping a ‘Vast Regulated Arena’	140
III.2. Owning Carbon Credits	145
III.2.1. Contesting Public and Private Domains	145
III.2.2. Managing Government Risk	149
III.2.3. Insuring Against Political Risk in Cambodia.....	153
III.2.4. Checks and Balances in the Integrated REDD Offsets Program	159
IV. Conclusion	163
4 CARBON TERRITORY	166
I. Introduction.....	166
II. Overview of Carbon Offsets in California and Chiapas	167
II.1. California’s Cap-and-Trade Program	167
II.2. The MOU	169
II.3. The ROW	171
III. Theorizing Carbon Territory.....	174
III.1. MRV Systems for Calculating Capability	174
III.2. Territories vs. Territoria.....	175
IV. Building Capabilities for Carbon Territories.....	178
IV.1. Interpreting “Jurisdictions” and “Projects”	178
IV.1.1. Drawing Boundaries	178

CHAPTER	Page
IV.1.2. Erasing Boundaries	184
IV.2. Two Models of Risk	189
IV.3. Tipping the Scales from Jurisdictions to Nested Projects	193
IV.3.1. Too Hot to Handle	193
IV.3.2. Too Cold to Hold	197
V. Conclusion	201
5 CARBON AUTHORITY	202
I. Introduction	202
II. Theorizing Carbon Authority	205
II.1. Constituents of Carbon Authority: Public Authority – Private Authority – Expertise – Norms – Exceptionalism	207
II.2. Inward- and Outward- Facing Performances	209
III. A Memorandum of Misunderstanding	212
III.1. Mixed Signals: De-Authorization of the Project or the Program in Chiapas?	212
III.2. A Close Reading of Public Comments Made in the Earth Island Journal	214
IV. Accounting for Networks of Private Expert Authority	225
IV.1. Sending and Receiving Signals	227
IV.2. Delegation or Orchestration of Expertise?: The Role of Private Networks in State Policy	229
V. Building Capabilities for Carbon Authority	233

CHAPTER	Page
V.1. Chiapas.....	233
V.1.1. Early Action for Old Visions in the Lacandon Rainforest.....	233
V.1.2. Chiapas vs. CONAFOR.....	240
V.2. California	243
V.2.1. Securing Private Expert Authority in Court: Citizens Climate Lobby and Our Children’s Earth Foundation vs. California Air Resources Board.....	243
V.2.2. Composition of In-State and Transnational Expert Advice	257
VI. Discussion and Conclusion: Orchestrating Expertise for Public or Private Interest?.....	263
6 CARBON RIGHTS.....	269
I. Introduction.....	269
II. Theorizing Carbon Rights	272
II.1. Ownership and Emissions Trading (+)	272
II.2. The Regulator’s Dilemma: Rights and Rights-claimers Made Present but Illegible	277
II.3. Rights, Risk, and Reflexive Modernization	281
III. Putting the Pieces Together: Carbon Rights, Risk Rationalities, and Reflexive Modernization.....	286
III.1. Transformations of Rights and Governance	286

CHAPTER	Page
III.2. The Risk Rationality of Carbon Markets	290
IV. A Framework for Analyzing Carbon Rights and the Transformation of Global Governance	293
IV.1. Risk Rationalities and Problematization in Carbon Markets: Key Questions	294
IV.2. Transnational and In-state Capabilities as Techniques of Globalization.....	295
V. Building Capabilities for Carbon Rights.....	298
V.1. Extant In-state Capabilities	299
V.1.1. MRV Systems, Political Legibility, and Illegality in the Lacandon.....	299
V.1.2. SB 605: Legislating Justice through Property in California	311
V.2. Emergent Transnational Capabilities	313
V.2.1. The Grievance Mechanism: An Administrative Proposal for Procedural Justice.....	313
V.2.2. ‘The Knowledge and Skills Needed to Engage REDD+’: A Guide to the Ideal Stakeholder	319
VI. Conclusion: Building Bridges or Abridging Rights?.....	325

CHAPTER	Page
7 EPILOGUE: KNOWLEDGE AND POWER	
FOR GREEN ECONOMY GOVERNANCE	330
I. Introduction.....	330
II. Summary of Theory: Stabilizing Knowledge and Institutions for Global Projects	331
III. Questioning Design.....	333
IV. Conclusion	336
REFERENCES.....	340

LIST OF TABLES

Table	Page
1. Timeline of Major Events	25
2. Comparison of National and Sub-national REDD Approaches.....	91
3. Pros and Cons of Accounting for REDD+ at Subnational, National, and Nested Scales (CIFOR 2008).....	110
4. Summary of Oddar Meanchey Project Activities and Targeted Deforestation Activities.....	155
5. How Should Grievances be Addressed?.....	315

LIST OF FIGURES

Figure	Page
1. States and Provinces of the GCF	13
2. Carbon Offset Investment Cycle.....	83
3. Types of REDD+ Emissions Reductions and Carbon Enhancement	94
4. Options for Capturing and Distributing International REDD+	101
5. Map of Oddar Meanchey with Community Forestry Sites.....	155
6. Governor Sabines and Governor Schwarzenegger	203
7. Montes Azules Biosphere Reserve	235
8. Illegal settlements in the Montes Azules Biosphere Reserve	302

LIST OF ACRONYMS & ABBREVIATIONS

AB32	Global Warming Solutions Act of 2006
ACES	American Clean Energy and Security Act
ACR	American Carbon Registry
AFOLU	Agriculture, Forestry and Other Land Use
AGRC	Alliance for Global REDD+ Capacity
ALM	agricultural land management
ARB	California's Air Resources Board (also CARB)
ARR	afforestation, reforestation and revegetation
BVEK	German Emissions Trading Association
CAR	Climate Action Reserve
CATIE	Tropical Agricultural Research and Higher Education Center
CCBA	Climate, Community & Biodiversity Alliance
CCOs	California Carbon Offsets
CDM	Clean Development Mechanism
CfRN	Coalition of Rainforest Nations
CIFOR	Center for International Forestry Research
CMM	coal mine methane
CONABIO	Mexico National Commission for the Knowledge and Use of Biodiversity
CONAFOR	National Forestry Commission
COP	Conference of the Parties
CRTs	Climate Reserve Tonnes
CTC	Chiapas Technical Advisory Committee

EDF	Environmental Defense Fund
EJAC	Environmental Justice Advisory Committee
ETAAC	Economic and Technology Advancement Advisory Committee
EZLN	Zapatista Army of National Liberation
FAN	Bolivian Fundación Amigos de la Naturaleza
FCPF	World Bank Forest Carbon Partnership Facility
FPIC	Free, Prior and Informed Consent
FPP	Forest Project Protocol
GCF	Governors' Climate & Forests Task Force
GEF	Global Environmental Facility
GGCS3	Governor's Global Climate Summit
IDESAM	Institute for Conservation and Sustainable Development of Amazonas
IETA	International Emissions Trading Association
IMF	International Monetary Fund
IPAM	Amazon Institute for Environmental Research
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
JNR	Jurisdictional and Nested REDD+
LULUCF	Land Use, Land Use Change, and Forestry
MBC	Mesoamerican Biological Corridor
MGGRA	Midwest Greenhouse Gas Reduction Accord
MOU	Memorandum of Understanding
MRV	Monitoring, Reporting, and Verification

NA2050	North America 2050
NACW	North American Carbon World Conference
NATO	North Atlantic Treaty Organization's
NCOS	National Carbon Offset Standard
NKCAP	Noel Kempff Mercado Climate Action Project
NORAD	Norwegian Agency for Development Cooperation
OPR	Offset Project Registries
PACCCH	Climate Change Action Program for the State of Chiapas
PACT	Pact for the Respect and Conservation of Mother Earth
PAMs	Polices and Measures
PCC	Pacific Coast Collaborative
PDR	Proposed Draft Regulation
PES	payment for environmental service
RED	Reducing Emissions from Deforestation
REDD+	Reducing Deforestation and forest Degradation
RGGI	Regional Greenhouse Gas Initiative
ROW	REDD Offset Working Group
SBSTA	Subsidiary Body for Scientific and Technological Advice
SBSTA	Subsidiary Body on Scientific and Technological Advice
SEMAHN	Secretary of Environment, Housing, and Natural History
SGS	Société Générale de Surveillance
SISA	State System of Incentives for Environmental Services
TAN	transnational advocacy networks

TCI	Transportation and Climate Initiative
TPP	Trans-Pacific Partnership
UDHR	Universal Declaration of Human Rights
UNCED	Conference on Environment and Development
UNDP	UN Development Programme
UNDRIP	UN Declaration on the Rights of Indigenous People
UNEP	UN Environment Programme
UNFCCC	UN Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCUs	Voluntary Carbon Units
WBCSD	World Business Council for Sustainable Development
WCI	Western Climate Initiative

CHAPTER 1

INTRODUCTION

I. Introduction

Sporting a green tie and disarming charm, California's Governor Arnold Schwarzenegger delivered a message of sub-national leadership to the 15th Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC) in December 2009.¹ The Governor implored the delegates arrayed in Copenhagen to flip the climate problem on its head. If Kyoto "made us think differently about the world", he said, then Copenhagen presented the "opportunity to think differently again." Rather than look to the 115 heads of state gathered for the most anticipated climate summit in years, the solution, he quipped, lay in tales of transformation told by a statue sitting atop a rock in the city's harbor:

In the harbor there is the *Little Mermaid*, the statue based on the Hans Christian Andersen fairy tale. When I was a boy in Austria, the Andersen fairy tale that I always liked best was *The Ugly Duckling*. And looking back, I think the reason that I liked it was because it was a tale of transformation and that spoke to me inside. I have always believed in the tremendous power of personal transformation.

The desire, the hope, the desperate need for planetary transformation is what brought us together here. And the question is: is this also a fairy tale? Is it a

¹ Transcript of Schwarzenegger's speech at COP 15 December 2009, available at <http://blogs.kqed.org/climatewatch/2009/12/15/schwarzeneggers-speech-in-copenhagen/>

dream? Is it a false hope? And if it is not, how do we make it real? Is that something that we ought to discuss?

Much like how Schwarzenegger himself muscled his way from a small village in rural Austria to govern the most populous state of the most powerful country on Earth, states and provinces like California are asserting themselves to become unlikely leaders guiding the world forward to a sustainable future. Encapsulating the vision, Schwarzenegger assumed a near-prophetic tone, extolling the transformative force of technology and economics:

I believe technological and economic forces will overtake the political and the regulatory efforts of national governments. We are beginning one of history's great transitions – the transition to a new economic foundation for the 21st century and beyond.

The transformative vision is not Schwarzenegger's alone. His successor, Governor Jerry Brown, has eagerly taken the mantle, signing a raft of Memoranda of Understanding (MOUs) on environment and trade with national and sub-national partners at home and abroad. Among the most noteworthy is the Under 2 MOU, a non-binding agreement signed in Sacramento in May 2015 among 12 states and provinces in Brazil, Canada, Germany, Mexico, Spain, UK, and the US to work together to limit their greenhouse gas emissions in line with a 2 degree Celsius warming threshold.² Together the members

² The founding signatories are: U.S. states of California, Oregon, Washington and

represent 100 million people and \$4.5 trillion in GDP. Senior officials from the UN and World Bank lauded the agreement as a major milestone for the climate negotiations, and UNFCCC Executive Secretary Christiana Figueres assured the group an unprecedented spot on the main agenda at the Paris COP.

In this vision, technology and economics, not politics and regulation, betoken a new paradigm of global environmental governance that is to supersede the top-down model envisioned at the birth of the UNFCCC and other Rio Conventions in 1992. And it will do so by metamorphosing a motley assortment of sub-national players into global leaders worthy of Christensen's beautiful swan. Yet, this vision to upturn a staid but stagnant international order is partial at best, for it assumes a stark divide between technology and economics on the one hand and politics and regulation on the other.

In *The Politics of Green Transformation*, Ian Scoones, Melissa Leach, and Peter Newell (2015) raise critical questions about the growing call to belatedly realize the changes hoped for at Rio over two decades ago. They caution that green can mean many things, leading down divergent paths with wildly different roles for markets, technology, knowledge, publics, and the state. Despite the allure of progress through the autonomous, globalizing force of technology and economics, resolving these differences is inherently political, prompting the authors to stress, "Understanding of politics is important in explaining which pathways get supported and legitimated." California's drive to govern from the bottom-up is emblematic of this larger and little understood transformation.

Vermont; the Canadian provinces of British Columbia and Ontario; the Mexican states of Baja California and Jalisco; the Brazilian state of Acre; and in Europe, Baden-Württemberg, Germany; Catalonia, Spain; and Wales, UK. Under2MOU website: <http://under2mou.org/>

The dissertation is a study of the politics of global green transformation along two key axes. The first is the idea of the ‘green economy’, which has come to dominate the discourse on sustainable development. More specifically, the dissertation focuses on carbon markets, which are a common theme in the green economy, in particular the proposal to keep tropical forests standing by conferring to their carbon financial value. That proposal, called Reducing Deforestation and forest Degradation (REDD+), is one major thread of this study. The second is the move towards a model of ‘transnational new governance’ where a top-down model based on treaties between nation-states is giving way to networked governance characterized by decentralized public and private actors and institutions, dispersed expertise, and voluntary commitments and other forms of soft law (Abbott and Snidal 2009). Here, I focus on efforts to bring REDD+ into California’s carbon market, through case studies on activities in and around a sub-national partnership spearheaded by California called the Governors’ Climate and Forests Task Force.

The next two sections provide more background on these two threads. The chapter then introduces sections on key research questions to the study of green transformation, theoretical orientation, and methodology. It closes with a summary of the study’s conclusions and a review of each of the following five chapters.

II. Background

II.1. REDD+ and the Green Economy

In the few short years following the 2007-2008 financial crisis, the green economy rose from relative academic obscurity to become the dominant frame for sustainable development. In 2012, the UN Conference on Sustainable Development (Rio+20) made

the green economy one of its two core themes and a central part of the Rio+20 outcome document, titled *The Future We Want*. Twenty years earlier the original Earth Summit in Rio, the UN Conference on Environment and Development (UNCED), helped mainstream the idea of sustainable development, famously defined in the 1986 Brundtland Commission Report as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

The resulting model for a green transformation—in the climate, biodiversity, and desertification conventions, Agenda 21, and global environmental governance more broadly—was largely a top-down managerial one, increasingly politicized over national and economic interests, and bogged down in growing bureaucracy (Scoones et al. 2015). Rio was supposed to transcend old tensions between the environment, development of the Global South, and continued growth of the Global North, but these tensions could not be stamped out and appeared with renewed vigor following the great financial crisis of 2007-2008.

The win-win discourse of the green economy, however, promised not only a palliative but a transformational response to ecological and financial crises alike (Bina 2013, Jessop 2012). The term dates back at least to the 1989 publication of *Blueprint for a Green Economy* by two environmental economists (Pierce & Barbier 1989). It is impossible to pin the term down to a single meaning, but, in general, it envisions ‘green growth’ through some mix of technological innovation, market mechanisms, and state-led support for green jobs, public-private partnerships, and fiscal stimulus (Scoones et al. 2015). To take one prominent example, in 2009 the UN Environment Programme

(UNEP) put forward a Global Green New Deal as a Keynesian response to the twin crisis for the planet and the economy.

As part of its vision, UNEP also championed REDD+ as a pillar of the green economy, which included, among others, a ‘Global Symposium on REDD+ in a Green Economy’ and a report on *Integrating REDD+ into a Green Economy Transition* (2013). REDD+ was introduced into the international climate negotiations in 2005 under the original moniker reducing emissions from deforestation (RED). Forests have conventionally served sawmills and cooking stoves, but the proposal to value forests not for the products that come out of them but for the carbon that stays in quickly gained traction, making REDD+ one of the few items of broad agreement in the climate negotiations.

Yet, many were not so sure markets in forest carbon were possible, and many others downright opposed them. Skeptical economists balked at the complexity of putting such a scheme in place, while activists charged that REDD+ puts the rights of the market over the rights of people and nature. One organization framed REDD+ as a battle over the world’s biomass, grouping it with biofuels and biotechnology in a broader struggle over the “Bio-economy versus Biodiversity” (Global Forest Coalition 2012). Thus, REDD+ has become a debate over not only the pragmatics of forest management but also the structural, or ‘constitutional’ changes in markets, the state, citizens, and science in global society (Ackerman 1992, Jasanoff 2002).

This dissertation is partly a study of the open moral struggles for and against the green economy. But it also finds pressing moral tensions in the technical and economic details of the green economy itself. Policy-makers, practitioners, academics, and activists

too often overlook these details, which lead down very different pathways with constitutional implications involving globalization and the proper role of markets, technology, and the state.

REDD+ is a particularly good illustration of why it is important to attend to these details. Although almost all proposals for REDD+ seek to place a financial value on forest carbon, not all propose to do so through carbon markets. REDD+'s close association with markets, especially markets based on local forest conservation projects, is more an historical outcome than a feature inherent to REDD+ itself. Over the course of the debate, many countries, Brazil foremost among them, have favored a version of REDD+ based on an international fund of some sort, which would issue performance-based payments to compensate countries for emission reductions. The dissertation elaborates on why the details of these various proposals matter greatly, especially in the ways they configure scale, risk, and finance for the green economy. California's REDD+ efforts are especially important in this regard because they aim to make new channels for finance possible by rendering the sub-national scale into a legible space for global governance, a topic to which we turn in the next section (Scott 1998).

II.2. Sub-national Leadership for Green Transformation

In November of 2010, the sub-national vision for a green economy was on display for two days as 1500 thought leaders, administrators, practitioners, and business people from 80 states and provinces around the world convened in Davis, California for the third Governor's Global Climate Summit (GGCS3). Held in advance of COP16 the summit brought hopes of delivering sub-national leadership under the theme 'Building the Green

Economy' to high-level international climate negotiations deadlocked since the lackluster outcomes of the previous year in Copenhagen.

The Governors' Global Climate Summit embodied this network and its role as a trading zone between enterprising sub-national states and provinces and influential transnational players. To situate these cross-scalar connections between sub-national governments and the global green economy, it is important to examine the growing network of diverse actors engaging global problems at the sub-national level. UNEP with its own program for a green economy was notably on the agenda, alongside other international organizations like the UN Development Programme (UNDP), World Bank, and Asian Development Bank. International science-policy luminaries like Intergovernmental Panel on Climate Change (IPCC) head Rajendra Pachauri, were present and even, via satellite uplink, UK Prime Minister David Cameron. Financiers and businesses also had a big presence, including BMW and Chevron, Cisco Systems, Frito-Lay, Veolia Transportation, and the International Chamber of Commerce.

The Summit's thoroughly transnational roster underscores that sub-national leadership drew support from powerful transnational organizations, bypassing the sanction or request of national governments. While hosted by the governors of four states in the Western Climate Initiative—California, Michigan, Washington, and Oregon—specialized UN agencies, international financial institutions, and private corporations added legitimacy and institutional support to the allies they saw in at the sub-national level. Organizations like UNDP, for instance, increasingly call for the rapid implementation of climate responses on the ground, with the agency estimating that 50-

80 percent of climate mitigation and adaptation actions must be implemented at sub-national or local levels of governance.

The most significant project launched at GGCS3 was the R20, or Regions of Climate Action—a partnership of sub-national governments, international organizations and financial institutions, NGOs, businesses, and academic institutions. The model for regional climate governance carried on this theme of devolving global governance downwards, which is perhaps most widely known through the C40 Cities Climate Leadership Group. Founded in 2005 by the former Mayor of London, Ken Livingstone. By 2015, the group counted over 75 cities as members, representing over 500 million people and one-quarter of the world economy.³

R20 was modeled in part on C40, with a focus on sharing expertise, information, and best practices for climate action outside and in advance of the international climate negotiations. Looking for alternatives to the deadlock in international climate policy, the R20 presented itself as “An innovative sub-national private-public alliance that will implement concrete actions to solve climate change and build the global green economy.”⁴ Speaking at the Summit, Governor Schwarzenegger described an imperative to link urgency and innovation:

We can't afford to wait for national and international movement....The role of sub-national governments is more important than ever, and California has shown that state and regional governments can institute policies that will grow the green economy, create jobs and clean our environment. With this unprecedented level of

³ C40 website: <http://www.c40.org/>

⁴ R20 website: <http://regions20.org/about-r20>

cooperation and collaboration, the Regions of Climate Action will continue this leadership around the world and will help influence national and international action.

C40 mirrors these goals, and the role of cities in global environmental governance is a growing area of interest in scholarship on global environmental politics (Aust 2015, Betsill & Bulkeley 2006, Johnson 2015, Lee 2014). The literature tends to focus on sub-national networks for sharing knowledge and practices for developing and implementing policies and projects. How knowledge and practices take shape, help shape, and travel through these global networks, however, has received less attention. Moreover, the scholarship has had less to say about the 3000 regional states and provinces in the world, which carry important differences for understanding networked environmental governance. In federal systems, for instance, states and provinces carry distinct constitutional and law-making authority, and often act as intermediaries between central and local governments. Moreover, states and provinces encompass not only cities but also the rural, agricultural, mining and wilderness areas implicated in a great many environmental issues.

The dissertation addresses these two themes—of the unique role of states and provinces, and the shaping of global knowledge and practice—with a focus on a related initiative spearheaded by California for REDD+. Of all REDD+ initiatives, the Governors' Climate & Forests Task Force (GCF) is unique for being a partnership of sub-national states and provinces. The governors of the nine states and provinces in the US, Indonesia, and Brazil that launched the partnership in early 2009 did so outside the

official recognition or support of the global climate negotiations, international organizations, or even their own central governments. Their mission was not to reach high-level political agreements but to create a platform and shared performance metric for measuring and circulating the financial value of carbon stored in tropical forests. To justify this endeavor, the GCF underscored the role states and provinces could play as places to test and refine REDD+ infrastructure and the authority sub-national governments often had over forest governance through the provision of rural services, law enforcement, land-use zoning, and the titling of land.

The GCF emerged from the first Governors' Global Climate Summit in Los Angeles in November 2008. At the time, REDD+ was quickly rising to prominence in the international climate negotiations and passage of climate legislation in the US appeared increasingly likely, presenting an attractive opening for the governors attending the Summit to get ahead of the curve with programs of their own. Sub-national carbon markets being designed in California and proposed in Illinois and Wisconsin offered one way to do this, leading these states to sign MOUs with Aceh and Papua in Indonesia and Amapá, Amazonas, Mato Grosso, and Pará in Brazil to facilitate cooperation for financing, climate policy, research, and technology exchange, with an emphasis on reducing emissions from tropical deforestation.

At the 2010 Governors' Global Climate Summit, the heads of three GCF members—California, Acre, Brazil, and Chiapas, Mexico—announced their commitment to work together towards the creation of a common carbon market for REDD+. California's nascent carbon market provided the impetus for the agreement. California was the closest of any political jurisdiction in the world to bringing REDD+ into a

government-mandated carbon market. (A mandatory, also known as a compliance or regulated carbon market, caps emissions among regulated entities, as opposed to a voluntary market where companies, individuals, governments, or other buyers purchase credits for self-defined purposes.)

The California Air Resources Board (ARB) had expressed significant interest in incorporating REDD+ offsets into the cap-and-trade program it was designing in accord with the landmark Global Warming Solutions Act of 2006 (AB32), which would make California's compliance market the world's first to accept REDD+ credits. The act designates ARB as the regulatory authority for implementing measures to bring California's greenhouse gas emissions to 1990 levels by 2020. In December 2008, the agency released its initial *Climate Change Scoping Plan*, laying out an array of an measures to achieve these reductions, including fuel efficiency standards, renewable energy targets, and the world's first economy-wide cap-and-trade program. The Scoping Plan points to the potential for state-provincial partnerships to advance the international policy debate by delivering early climate action in developing countries. These include shared performance standards and benchmarks, and sectoral agreements designed to promote low-carbon growth. The plan endorses working with REDD+ partners in Brazil, Indonesia, and beyond to establish "sustainable financing mechanisms to support eligible forest carbon activities in the developing world."⁵

By 2015, GCF members were designing and implementing forest provisions in 26 member states and provinces from the US, Spain, Brazil, Mexico, Indonesia, Nigeria, and Peru, representing over 20% of tropical forests worldwide, and over 50% and 75% of

⁵ ARB (2008). *Climate Change Scoping Plan: A Framework for Change*.
http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

tropical forests in Indonesia and Brazil respectively (Figure 1). While international initiatives and negotiations drew attention over REDD+ at the global level, and voluntary projects drew attention locally, the GCF expanded its technical and administrative work with little fanfare into the unoccupied sub-national space. The partnership garnered modest support from prominent donors interested in innovating REDD+ outside the obvious channels, such as the Gordon and Betty Moore Foundation, David and Lucile Packard Foundation, Google Earth Outreach, and the Norwegian Agency for Development Cooperation (NORAD).

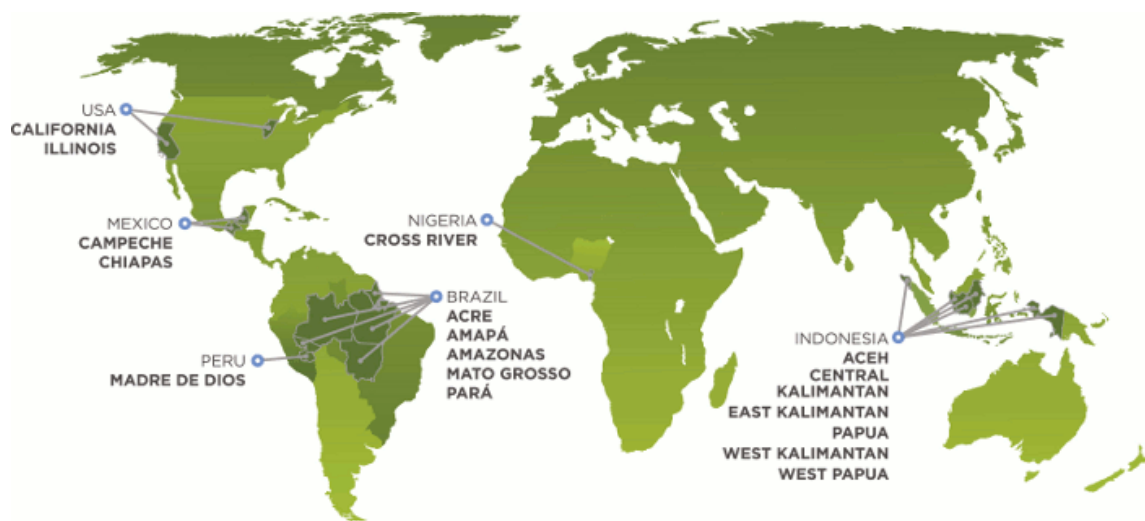


Figure 1. States and Provinces of the GCF.

The GCF illustrates the complex social, political, and epistemic process of making the green economy, as well as emerging forms of sub-national governance and their ties to existing global governance regimes. Practitioners, as well as scholars, are beginning to realize the need to understand sub-national market making efforts on their own terms. When the preeminent Center for International Forestry Research (CIFOR) established its

REDD+ research program, for example, it initially focused on three areas: international negotiations, national strategies, and local livelihoods. Only later did it realize the need to include sub-national initiatives as the “missing part”, prompting the organization to describe the GCF as the “strongest example” of innovations to advance “subnational jurisdictional programs [that] can move forward with actions that leverage forests for climate change mitigation even as international negotiations continue at a slow pace”.

The thickening web of sub-national and supranational actors of the GCF, R20, and GGCS, reveals a green economy being built by a variety of policy entrepreneurs, expert communities, government decision-makers, and carbon market proponents as they traffic expertise, institutions, norms, ideas, and practices between sub-national and global spaces. Thus, emerging forms and processes of transnational new governance for the green economy at the sub-national level cannot be understood in isolation or opposition from existing regimes of global environmental governance.

The dissertation is therefore divided into two parts. The first part, following the introduction, recounts how REDD+ developed outside of the GCF at a global level in the international climate negotiations and voluntary carbon market promoted by conservation groups and carbon market entrepreneurs. The second half of the dissertation looks at how subsequent policy efforts unfolded sub-nationally, with a focus on California and Chiapas.

III. The Argument: The Challenge Green Transformation

III.1. Purpose

The purpose of the dissertation is to empower deliberate action by contributing to a vocabulary for talking about global environmental governance in a politically meaningful way, which inevitably means talking about economics and technology too.

The point is not simply that all things are political. To politicize one thing is to depoliticize another. Attention's finitude—"the act or state of applying the mind to something"—is a fact of life. If we accept an expansive view of power as that which forces, prevents, or maintains order, the initial rush one might have in unmasking power everywhere, quickly gives way to confusion, banality, or, most ironically, the powerlessness of apathy—unless guided by principles of some sort for sifting away the chaff.

Considering the ubiquity of "green economy" and "political economy", the phrase "green political economy" is in surprisingly short use. Activists and progressive-minded scholars usually present it as a model or an ideal—"a normatively compelling and policy-relevant path to outlining a 'green political economy' to underpin sustainable development (Barry & Doran 2006).

I support this goal, but it is not mine here. I aim to sharpen the critical tools needed for goals like this to make sense of contemporary shifts in global environmental governance and, if possible, articulate their claims in a way that can be heard and acted upon. Thus, my motivation is to better ask and answer a general question: What kind of politics and knowledge for what kind of power?

Other writing on “governing the green economy” or “green economy governance” likewise treat it as an aspirational program but one that is already well underway. Specialized UN agencies like UNEP and expressly international policy organizations like the International Institute for Environment and Development (IIED) describe “enabling conditions”⁶ and actionable steps, usually countries, can take through capacity building, policies, laws, finance, expertise, and stakeholder engagement to foster the good governance needed for a transition to the green economy.

Again, my purpose is different. The dissertation grapples with how the vision for a green economy is already ushering institutional and epistemic change, and even altering the very definition of “the state”, “the market”, and “civil society” (Swyngedouw 2005, Taylor 2003). This is not an abstract exercise because how those entities are defined—as the three basic spheres of society as we know it in the modern nation-state—touch on basic, constitutional questions, such as: Who has a right to property or civil protections? Who can speak as an authoritative expert in public decision-making? And what responsibilities does the state have to its citizens?

Much of this work is taking place outside of the national and international institutions of government that have been the hallmark of political theory and science and technology studies (STS). In the following sections I highlight the main theoretical findings of this study, which aim to add to a vocabulary for engaging global governance of the green economy in deliberate and meaningful ways. The subsequent sub-section outlines the narrative arc of the empirical material in the remaining chapters.

⁶ Bass, S. (2013). Scoping a Green Economy. IIED, London. <http://pubs.iied.org/16554IIED>

III.2. Main Theoretical Findings

At the intersection of the green economy and transnational new governance, the dissertation is a study in complexity. REDD+ is in many ways the poster child of this intersection and an ideal model of complex, network governance. REDD+ is characterized by:

- Episodic interactions of different actors as they move between institutional roles and sites
- Processes and problem frames across multiple scales
- Institutions in flux
- Contested scientific knowledge
- Disputed values
- Ill-defined political, legal, and scientific categories
- Relationships that grow in geometric proportion to number and diversity of actors

The case material demonstrates all of these qualities in spades. This poses a theoretical and methodological challenge to the analyst looking for solid ground. But it is also what makes case material like that examined here, so interesting and pressing. Therefore, in line with my stated purpose, I aim to contribute to a mode of theoretical and methodological inquiry that sharpens our faculty to speak about the transformations of governance in politically meaningful ways. To this end, I forward several propositions gleaned from the dissertation:

1) Focusing on 'Hot and Cool Sites' of Institutional and Epistemic Change: As the number, diversity, and connections of actors grows, deductive analyses of sites and structures grow increasingly strained. While state hierarchies might pose the analyst the challenge of unearthing state secrets and hidden interests, networked arrangements swing the pendulum in the opposite direction. It is a relative difference, of course, but the desired information on actors' whereabouts and actions is, in networked arrangements, often available though difficult to track and interpret. I suggest turning these theoretical and methodological liabilities into a strength. This requires a shift in focus from explaining how institutions shape knowledge or how knowledge reconfigures institutions to inquire into institutional and epistemic change across multiple sites. The former questions remain important, although seen in relation to broader network dynamics, open possibilities for action and investigation, which I elaborate in the following propositions.

Example: Strictly comparative methodologies are ill-suited to the current cases of Chiapas and California because the states are so politically and economically different, and their REDD+ policies so closely linked. Yet, to forge a stable relationship, the states must hold certain forms of political and expert authority constant, while reconfiguring others to harmonize policy and practice across borders.

2) A Keener Sense of Institutional-Epistemic Change Across Sites is Itself a Capability: A central concept in the dissertation is that, in a very general sense, actors have capabilities that they can exercise in different sites, under specific circumstances, and in certain institutional roles. As a result, actors able to recognize where institutions and knowledge

are in stable configurations or in flux *and* who can act on that recognition tend to be more influential across the network. In this sense, an awareness of ‘hot and cold sites’ of change is a capability to cultivate other capabilities. Analysts or practitioners must therefore fit their terms tactically to the right register, even while thinking in terms of a wider stratagem.

Example: Private standard-setters in the voluntary carbon market were able to reassert the status of local forest conservation projects in REDD+ after national governments excluded them over concerns about sovereignty and technical uncertainty when negotiating the rules for the Clean Development Mechanism. They did this through a combination of political work outside the negotiations and devising carbon accounting innovations that reconciled carbon accounting across scales.

3) Reading Institutional and Constructivist Analyses Together Across Multiple Sites Can be an ‘Early Indicator’ of Constitutional Change: The first two propositions might be thought of as addressing ‘faster level’ institutional-epistemic change—the first in regard to the overall shape and dynamics of a network, and the second relative to the position and capabilities of particular actors in that network. The third proposition addresses those ‘constitutional’ aspects that tend to change more slowly. To this end, I attempt to use the case material to sketch the outlines of an explanatory framework that might be gainfully refined to chart emerging global governing arrangements where institutional and constructivist approaches run into difficulties because institutions and knowledge are in simultaneous flux.

The theoretical investigation of the material proceeds as follows: The first two chapters identify international environmental laws for REDD+ and private expertise in the carbon market as two areas of rapid institutional and epistemic change at the global scale. The subsequent three chapters trace the movement of global institutions, knowledge, and institutions examined in chapters two and three into the sub-national scale. (See Sections III.3. and VII. for details on individual chapters). Tracing the movement and configuration of actors, institutions, and knowledge across scales brings into relief subtle constitutional shifts that escape global-centric analyses. I argue that a multi-scale approach does so because of the dynamism that arises when global knowledge and policy frames are introduced and negotiated deep within the nation-state. (It is important to note that the decision to frame the analysis in this way was the outcome of an iterative multi-sited approach, not a decision built into the research design.)

Example: Concerns about local air pollution and the veracity of carbon offsets led the environmental justice community in California to issue a legal challenge to regulators in an effort to eliminate or severely curtail the use of carbon offsets in the state's cap-and-trade program. The groups charged that regulators exceeded their legislative mandate by issuing offset credits to projects that did not reduce carbon emissions. The Court decided in regulators' favor, citing significant regulatory expert authority. A transnational perspective, however, tells a more complicated story given regulators' dependence on the expertise of a much wider network of private actors hold and have embodied in the standards goals that may only partially align with those of public agencies.

4) Transposition Does Not Equal Transformation (or the More Things Change, the More They Stay the Same): Finally, the dissertation advances an approach for evaluating the politics of green transformation (Scoones et al. 2015). I do not further explore the idea here but propose that the dissertation's multi-scale approach for analyzing institutional and epistemic change could be used *to contrast transposition with genuine transformation*. In mathematics, transposition is defined as a permutation that occurs through the exchange of two elements while others stay fixed. This is not what is meant by green transformation, which envisions more thoroughgoing structural change. In the metaphor I propose here, this would amount to the transposition (and thus extension rather than transformation) of existing hierarchies through horizontal means. This introduces novel democratic concerns because these emerging forms of global governance lack the accountability mechanisms that, in principle, constrain the arbitrary exercise of power in the liberal democratic nation-state (see Miller 2007, 2008; Chayes & Chayes 1998).

III.3. Narrative Arc

Two central threads run through the dissertation: the making of global laws and global knowledge to govern environmental problems through REDD+. The dissertation seeks to complicate the REDD+ narrative found in most policy discussions and scholarship, which typically targets specific items on the REDD+ policy agenda, such as safeguards, carbon accounting, or financial mechanisms. This narrative tends to separate scientific and policies issues from one another (when in reality they are hybridized) or isolates specific organizations, governments, or groups within the nation-state or international

sphere (see Miller 2001a). Alternatively, policy and scholarship focuses on REDD+ implementation at the local level (and, at times, the interactions between the local and national levels), for example, in much of the very insightful though locally- and nationally-bound studies of political ecology (see Osborne 2013). Instead, I forward an alternative narrative in order to make sense of REDD+ as an emerging form of global governance. (The text in this section highlights empirical material in the chapters; for their connection to theoretical issues, see Section VII. For a timeline see Table 1).

The empirical and theoretical material for the dissertation falls into two parts. Part I (Chapters 2 and 3) provides an account of the development of REDD+ rules in the UNFCCC and technical accounting proposals in the voluntary carbon market. Part II (Chapters 4-6) explores how the actors and ideas that initially emerged in the international deliberations were subsequently reconfigured at the sub-national level in California and Chiapas.

It is important to stress that these cases should be thought of as transects or probes across a complex, dynamic, and ill-defined network. The intent is not to map the full suite of relationships among actors or follow any single issue or site. Rather, I aim to identify key moments where configurations of knowledge, law, territory, authority, and rights are made and unmade around the running theme of market-making in California and Chiapas.

Chapter 2 gives an historical account of the development of REDD+ rules and knowledge in the UNFCCC. The first part of the chapter presents an overview of the international deliberations leading to a set of methodologies and guidelines for implementing REDD+ known as the REDD+ Rulebook. The chapter describes how the

Parties and international organizations ostensibly responsible for implementing REDD+ relied on private sector expertise. Specifically, the chapter ties global law-making in the UNFCCC to three technical carbon accounting proposals that private actors devised between the late-1990s and 2007. The chapter highlights how these technical proposals sought to calculate carbon emissions at different scales, which carried significant but underappreciated implications for the interpretation and implementation of global environmental law.

Chapter 3 moves to the voluntary carbon market, in which private actors around the world advanced the proposals for local forest offset projects outlined in Chapter 2. Conservationists, project developers, and fellow market proponents invested significant technical, institutional, and financial resources in building a voluntary market in hopes of persuading governments to legislate a much larger compliance market. The chapter recounts how these efforts consolidated expertise in transnational private networks, most notably the Verified Carbon Standard (VCS). Through a series of detailed cases, the chapter argues that the consolidation of private expertise required standards that met the demands of private-sector investors and project developers—demands that made the content of those standards different from the content required by governments alone.

Chapter 4 introduces the first of three chapters on market-making for REDD+ in California and Chiapas, exploring key meetings and advisory processes where jurisdictional and nested proposals for REDD+ were discussed by government and private actors. The chapter also provides an overview of California's cap-and-trade regulations, and their connection to proposed REDD+ offsets.

Chapter 5 recounts the cancelation of Governor Sabines' signature REDD+ project. It then examines key sites in both California and Chiapas where private authority was established and tested in public institutions. These are: mapping efforts in the Lacandon rainforest; tensions between Chiapas and the central government of Mexico over REDD+; the representation of carbon market expertise in California; and a judicial challenge to California regulators' authority to issue carbon offsets.

Chapter 6, like Chapter 5, traces key sites where market-making established new forms of rights while curtailing others. These include: procedural grievance mechanisms, the formulation of forest communities as stakeholders, environmental justice legislation designed to restrict offsets to California, and the social dimensions of carbon mapping in the Lacandon.

Table 1. Timeline of Major Events (Relevant chapter in roman numerals)

<u>DATE</u>	<u>EVENT</u>
1997	Scolec'Te project launches carbon payments to farmers in Chiapas (II)
Dec-1997	Kyoto Protocol adopted, paves way for project offsets in Clean Development Mechanism (CDM) (II)
2001	Legislature establishes California Climate Action Registry, precursor to Climate Action Reserve (CAR) (IV)
Apr-2001	Marrakech Accords Reach CDM Rules, Exclude Avoided Deforestation (II)
Nov-2001	Avoided deforestation projects excluded from CDM in Marrakesh Accords (II)
2003	California, Oregon, Washington start West Global Warming Initiative (I)
2005	CDM issues first credits
2005	C40 Cities Climate Leadership Group launched (I)
2005	Voluntary Carbon Standard (VCS) founded by NGOs and private sector (III)
Aug-2005	Santilli proposes national compensated reductions (CR) for avoided deforestation in journal Climatic Change (II)
Nov-2005	Coalition for Rainforest Nations adapts CR as RED in submission to UNFCCC (II)
2006	California Passes Global Warming Solutions Act (AB32) (IV)
2007	Pedroni proposes 'nested' REDD, Conservation NGOs endorse (II)
2007	Western Climate Initiative (WCI) founded (I)
Apr-2007	Bali Action Plan puts REDD on UNFCCC agenda (II)
Sep-2008	Lehman Brothers files for bankruptcy
Oct-2008	Chiapas passes Law for Sustainable Forestry Development
Nov-2008	GCF MOU signed at first Governors' Climate Change Summit in LA (I)
Dec-2008	California Air Resources Board (ARB) endorses REDD in AB32 Climate Change Scoping Plan (IV)
2009	Governors' Climate & Forests Task Force (GCF) Launches (I)
Jan-2009	Programa de Accion ante el Cambio Climatico del Estado de Chiapas (PACCCH) launches (V)
Jun-2009	US House passes climate legislation (I)
Dec-2009	Copenhagen disappoints expectations for binding global agreement COP 15

Table 1. (continued)

<u>DATE</u>	<u>EVENT</u>
Sep-2010	BNP Parabis lends \$50 million to Wildlife Works' Kasigu Corridor REDD project in Kenya (III)
Nov-2010	Governors of California, Chiapas, Acre sign MOU
Nov-2010	California hosts third Governor's Global Climate Summit on 'Building the Green Economy' (I)
Dec-2010	Cancun Agreement recognizes REDD+ Safeguards (VI) COP 16
Dec-2010	Chiapas passes Climate Change Adaptation and Mitigation Law (V)
Dec-2010	Governor Sabines Announces Pact for the Respect of Mother Earth: Lacandon Jungle (V)
Dec-2010	REDD+ replaces REDD in Cancun Agreement (II)
2011	Terra Global starts first private equity fund for REDD+ projects, secures \$40 million from the Overseas Private Investment Corporation (OPIC) (III)
Feb-2011	ROW Established (IV)
Feb-2011	VCS issues first REDD credits to Wildlife Works' Kasigu Corridor project in Kenya (III)
Apr-2011	Chiapas campesino and indigenous groups oppose REDD+ in Declaration of Patihuitz (VI)
Aug-2011	Chiapas becomes first state in Mexico to start a REDD+ Technical Advisory Committee (CTC) (V)
Nov-2011	Chiapas establishes Intersecretarial Commission for Climate Change (CCICCCH) (V)
2012	Acre becomes first jurisdiction to receive performance-based REDD+ payments (VII) via Germany's REDD+ Early Movers Programme
Jun-2012	Green Economy one of two themes at Rio+20 (I)
Jun-2012	Mexico passes General Law on Climate Change
Sep-2012	GCF Annual Meeting held in Chiapas (VI)
Oct-2012	VCS releases Jurisdictional and Nested REDD+ (JNR) (IV)
Jan-2013	Superior Court throws out offset case (V)
Feb-2013	ROW public comment period starts (VI)
Feb-2013	ROW Workshop 1: MRV (IV)

Table 1. (continued)

Mar-2013	ROW Workshop 2: Safeguards (IV)
Apr-2013	ROW Workshop 3: Legal and Institutional Issues (IV)
May-13	SB 605 passes California Senate, aims to restrict offsets to state (VI)
Jun-2013	UNEP publishes 'Integrating REDD+ into a Green Economy Transition' (I)
Jul-2013	Governor Velasco cancels PACT in Chiapas (V)
Nov-2013	California, Quebec link carbon markets (I)
Nov-2013	Parties adopt REDD+ Rulebook in Warsaw (I) COP 19
2014	338 REDD+ projects cover over 4 million hectares in 52 countries (II)
Jan-2014	Terra Global publishes alternative nesting proposal, Aims to clarify public, private responsibilities (III)
Jan-2014	Terra Global receives first political risk insurance for a carbon offset project, OPIC issues \$900,000 insurance contract for Oddar Meanchey REDD+ project in Cambodia (III)
May-2014	ARB retains REDD+ option in First Update to the Climate Change Scoping Plan (V)
Feb-2015	California Court of Appeal denies offset challenge in Citizens Climate Lobby and Our Children's Earth Foundation vs. California ARB (V)
May-2015	California leads Under 2 MOU (I)
Jun-2015	REDD+ rules provisionally settled at Bonn Climate Change Conference

IV. Three Research Questions

Sub-national leadership through technology, markets, and cooperative arrangements for a green economy does not make politics moot. The ideals and anxieties every society asks itself are as alive as ever. Who has the authority to govern? To what ends? How is justice to be served? Differences resolved? Roles and responsibilities given and assumed? The ways such questions are asked and answered, however, is transforming, perhaps radically so. The scholar's task then is to revisit these perennial questions so that they may be

asked anew and made intelligible in an age when many of the avenues we thought we could use to order society in a just and responsive way are being sidelined, unsettled, bypassed, reinvented, and obstructed. With a keener sense of how green transformations are being envisioned and advanced, there is the possibility of better orchestrating their activities and engaging their politics.

The challenge is that the new forms of governance are partial, novel, incomplete, and, therefore, often illegible. They are, moreover, not wholly replacing but emerging alongside and in relationship with older modes. An inquiry of this kind thus needs a compass and signposts to guide its way into the labyrinth and to chart a path, however tentatively, to the always present stakes of governance that are elided and obscured by claims of a post-political era. To that end, the dissertation is oriented to three core research questions and three corresponding bodies of theory, which direct the selection, analysis, and interpretation of the case material in each chapter. The three research questions are:

- 1) Where are new political and legal institutions emerging, and how are they structured?

- 2) What role does scientific, legal, and administrative expertise play in shaping these institutions, and vice versa?

3) How are constitutional elements of the political order (territory, authority, and rights) being reoriented towards these new spaces and away from the exclusive domain of the nation-state?

The first of these questions is structural. It aims for a more accurate map of the ‘global project’ where the de facto sites of governance are located, the relationship of those sites to each other, and the identity of the actors that make and inhabit them.

The second introduces an epistemic dimension. It is concerned with how knowledge, especially about natural and economic systems at the global scale, shapes and stabilizes the global project, and how such knowledge is shaped and stabilized in turn. This includes the framing of environmental problems and solutions; shaping institutions, policies, and practices; and the role of science in building the credibility, legitimacy, and authority to govern.

The third asks how these emerging structures and processes are reshaping basic social, legal, and political categories, namely territory, authority, and rights. It considers the degree to which the cases reflect more fundamental changes to the social and natural order, and the ways emerging forms of environmental governance speak to globalization more broadly.

By asking these questions about structure, process, knowledge, and meaning, the dissertation aims to sharpen our theoretical understanding of what is at stake in the sub-national agendas for a green economy and suggest opportunities for crafting it more deliberately and productively.

V. Methods

V.1. Historical Multi-sited, Interpretive Analysis

Understanding global projects as emerging governing regimes for the green economy calls for detailed interpretations of how these processes unfold in particular sites. Only then can those sites be strung back together to account for how global projects come together or fall apart.

Methodologically, this requires a multi-sited, interpretive approach. Sassen (2006) puts it thus, “Foundational change in complex systems is a complicated matter. Such change is only partly legible and hence interpretation becomes critical in the account of that change.”

To capture the dynamics and constitutional dimensions of green transformation, the study adopts an interpretive strategy in this study is based on grounded theory (Charmaz 2006) to develop concepts for describing otherwise illegible patterns discerned from the description of “thick environments, multisited localized domains, and small worlds in global systems” (Sassen 2006). Thus, the study also adopts a multi-sited design in recognition that knowledge generation, maintenance and sharing occurs in networks involving a mixture of actors whose identities and relationships cannot be fully known in advance of analysis (Marcus 1995).

To get a handle on this complex process, I began data collection and analysis by identifying key sites where the discourse, policy, and practice in the relevant case material were being either opened up (e.g. legal contests, expert controversies, protest) or closed down (e.g. regulations, meeting agendas, expert findings). Special attention was

paid to elements (e.g. ideas, technical proposals, policy frameworks) appearing across multiple sites.

V.2. Site Selection and Data Collection

Data collection proceeded iteratively with site selection and data analysis. I conducted an initial qualitative review of the historical and contemporary scientific and political debates surrounding forest degradation in REDD+ using a combination of a) textual and visual documents found in the form of meeting minutes, policy statements, scientific papers, advocacy positions, newspaper headlines, and maps; b) ethnographic observations at key meetings, workshops, and organizational work spaces; and c) semi-structured interviews with country negotiators, secretariat staff, biodiversity scientists, agency staff, NGOs, and other representatives of scientific, political and activist institutions.

a) Documents: Transparency requirements make extensive documentation of the key meetings and governing documents readily available online. NGO position papers, technical reports, media stories, and training materials are also readily accessible. An historical review of these texts offers an important window into the changing discourse and institutionalization of forest degradation in REDD+ policy negotiations and scientific community. Texts include the state regulations, court decisions, state climate agendas and advisory reports, state-provincial MOUs, GCF Joint Action Plan, REDD+ project planning documents, NGO policy briefs, media articles, and country SBSTA position papers.

b) Observations: Ethnographic observations of international negotiations, technical workshops, scientific conferences, and daily work routines complement the institutional and discursive signature found in written documents with information on practice and materiality. Observations of social practice are particularly valuable when practice differs from discourse. Although many activities take place out of public sight, ethnographic observations offer an alternative window through numerous, and often episodic, sites that bring together diverse actors, institutions and discourses.

I conducted observations at the following events:

- Thirty-sixth Meeting of the Subsidiary Body for Scientific and Technological Advice (SBSTA), UNFCCC, 14-25 May 2012, Bonn, Germany
- UN Conference on Sustainable Development (Rio+20), 13-22 June 2012, Rio de Janeiro, Brazil
- Annual Meeting of the Governors' Climate and Forests Task Force, 25-27 September, 2012, San Cristobal, Chiapas, Mexico
- REDD+ Offsets Working Group Workshop on Monitoring, Reporting, and Verification, 5 February 2013, Stanford University, Stanford, California, USA

- REDD+ Offsets Working Group Workshop on Safeguards, 25 March 2013, University of California - Davis, Davis, California, USA

- REDD+ Offsets Working Group Workshop on Linkages, 5 April 2013, University of California - Los Angeles, Los Angeles, California, USA

- Navigating the North American Carbon World Conference (NACW), 16-18 April 2013, San Francisco, California, USA

- Various webinars, seminars, workshops, conferences, and other events archived and broadcast online.

c) Interviews: Semi-structured interviews are a third, complementary data source in addition to documents and observations, and offer independent and interpretations and insights from individuals independent from this study. I identified interviewees through the observations and documents described, and by using a snowball approach with interviews and other third-party contacts. Three dozen interviews were conducted in person or over the phone or Skype. I also solicited counter-perspectives from marginalized groups who hold views on forest monitoring that are not expressed in mainstream forums. Interview questions were designed to provide information and interpretations unavailable through observations and documents.

VI. Theorizing Global Projects

International environmental law scholar and Senior Adviser to the GCF, William Boyd (2010), argues that the 2009 climate negotiations in Copenhagen marked a turning point in global environmental governance, where the ambition for countries to submit to a supra-national system to govern global problems succumbed to near-paralysis at the international level and downright domestic hostility in many countries, the United States not least amongst them. Continued foot-dragging in the UNFCCC casts further doubt that supra-national regimes guided by a global managerial logic are adequate to the increasingly “plural, fragmented nature of the international legal and political order (pp. 458)”.

To make sense of emerging governing arrangements like the REDD+, Boyd offers the concept of the *global project*. I adopt the concept of the global project to frame the GCF within the broader REDD+ enterprise. The current study uses the concept because it: 1) complements institutionalist and comparative political thought on global environmental governance, which is useful for understanding the structural heterogeneity of the GCF, 2) calls for constructivist approaches for understanding the co-productive relationship between governing institutions and expertise, and 3) invites further investigation on how global projects are driving globalization and constitutional change by creating new spaces to know and govern global environmental problems outside of the nation-state. I describe the each of these three theoretical perspectives below.

*Note: Core theoretical concepts appear in italics when first introduced, in this and subsequent chapters.

VI.1. Structure, Institutions, and Comparative Politics

VI.1.1. Institutionalism

Observers of environmental regimes, particularly post-Rio, began to argue that existing theories could account for neither the influence of non-state actors nor the emerging suite of international organizations and institutions characteristic of environmental politics. International relations had until then favored realist and neorealist explanations for the interactions between nation-states, largely seen as atomistic, self-interested actors who calculated behavior in terms of the perceived economic and military might of themselves and their opponents. Such a paradigm may have approximated matters of war, but saw no possibility for global environmental governance, save perhaps through the projection of state power through puppet institutions. Regime theorists in international relations went beyond neorealism by extending state-centric theories to problems of collective action but saw institutions as neutral accountants—reducing transaction costs, facilitating negotiations, and communicating information, but otherwise exerting little independent force in their own right.

Institutionalists, unsurprisingly, took institutions seriously.⁷ They argued that institutions—defined as sets of collectively understood norms, rules, rights, and responsibilities—could better explain the complex and rapidly evolving domain of global environmental governance than the clean, mathematized, state-centric abstractions that dominated thinking in international relations. The resulting body of work has generated substantial insights into the ways transnational networks of businesses, scientific groups, and non-governmental organizations actively partake in the creation and operation of

⁷ Institutional sub-fields that have written on global environmental governance include new institutionalism, neoliberal institutionalism, and weak constructivism.

international regimes by shaping the norms and knowledge through which nations interpret and pursue their national interests (Lipschutz 1996, Wapner 1996, Risse et al. 1999, Newell 2000, Betsill & Bulkeley 2004). This includes: epistemic communities of experts who share and press for common scientific and political sensibilities (Haas 1990); transnational advocacy networks (TAN) of state and non-state actors allied around a common issue, discourse, and values across international and domestic settings (Keck and Sikkink 1998); international institutions that shape scientific knowledge and reduce uncertainties around it (Walsh 2004); and the interplay of institutions across multiple scales (Young 2003, Cash et al. 2006).

Institutionalists have also addressed matters of democracy and accountability. Robert Keohane, for example, conceives of international institutions as not merely avenues for collective action but also means to secure accountability to citizens otherwise far removed from the elite circle of global affairs. Against the backdrop of globalization's "shrinkage of distance on a world scale through the emergence and thickening of networks and connections" (2002), he sees institutions caught between the horns of a twin dilemma: institutions are needed to provide security against the dangers of an interdependent world without being captured by elites and tyrants (also see Chayes & Chayes 1998; Miller 2007). To guard against the latter, Keohane advocates institutions designed to defend against the arbitrary exercise of power that is limited in liberal democracies by elections and other mechanisms that cannot exist absent a world government. To that end, he sees legitimacy, that is, "institutionalized procedures for open communication and collective reflection", as possible in global affairs through accountability (e.g. chains of delegation and the transparent evaluation of government

performance), participation (e.g. new modes of communication and the autonomy and authority of publics in new geographies), and persuasion (e.g. rational discussion and legalization of decision-making). As we will see, each of the epistemic, normative, and political aspects of institutions are relevant to theorizing the structure of global projects.

VI.1.2. Institutional Structure: Heterogeneity - Groups - Collectives

Global project is a term that encapsulates the fact that initiatives like the GCF are at once decentralized and collective, composed of project developers, conservation groups, private investors, sub-national governments and other unconventional global actors who come together to address a global environmental problem, often with little or no oversight from higher national or international authority. The heterogeneity is captured in Governor Schwarzenegger's soaring appeal to any and all who might forge new sub-national "laboratories of innovation":

I also believe in the power of the iconoclast and the entrepreneur and the individualist. I believe in the power of the scientists, the capitalists and the activists. I believe in the power of the cities and the states and the provinces to be laboratories for new ideas, which the national governments then can go and study and adopt.

The vision implies a collective endeavor but without the binding values or identity of a community or group. A global project is therefore closer to a collective lacking hard and fast borders, made up of overlapping communities or groups. Collectives, in

institutionalist thought, refer to the global system of states made of social groups related to each other through mutually understood sets of formal and informal institutions. The collective is generated through the interaction of these groups and institutions. Whereas members of a groups recognize a central authority to act on their behalf—a sovereign in the case of states—no such figure exists overseeing the collective as a whole, and the sense in a common “we-ness” is weak or absent altogether (Walsh 2004).

None of these concepts, however, are quite suited to understanding global projects. Unlike collectives, global projects connote intent. Projects can succeed or fail, implying the collective aspiration and anxiety heard in the performative refrain, “We are the GCF,” often voiced by GCF governors to invoke a common mission and identity. In some ways then, a global project resembles a social movement or discourse coalition, with room for divergent interests and beliefs coalesced around common issue. But if a social movement or discourse coalition, then one with an explicit global orientation where governments, albeit sub-national ones, remain key and where technical, administrative, and legal practice are more important than high-level policy goals.

Finally, while global projects downplay the importance of high-level policy, they are, as projects, still goal oriented. Projects are assembled bit by bit, by working with, through, and around a plural and fragmented epistemic and legal order. Best practices, standard setting, capacity building, norm-making and the like are central to see global projects as a directional-process attempting to move from a less to a more coordinated state of affairs, where the relations among actors are typically voluntary, loose, and opportunistic.

Theorizing the structure of global projects helps to clarify the decentralized institutional arrangements that determine the roles, identity, and relationship of the great many agents involved, with important implications for understanding how such projects form, operate, and change. This is particularly important because we are interested in understanding how the global project is successfully orchestrated (or not), which requires specificity about the lines of delegation and responsibility around knowledge and decision-making. The following sections clarify what this means for the GCF with a discussion of the empirical findings of comparative political studies of sub-national climate policy, in both their vertical and horizontal dimensions.

VI.1.3. Vertical Interactions Single States - Federalism - Laboratories of Innovation

The GCF states and provinces continue a tradition of “policy experimentation” and “laboratories of innovation” in federalist systems that predate global environmental concerns in other areas, such as health care and education (Rabe 2007, Hoffmann 2011, Bulkeley et al. 2014). More recently, states like California and New York have begun to assert a role in climate policy, as have counterparts in other federal systems, such as Australia, Canada, and the European Union. Comparative political studies reveal several reasons for this bottom-up push, including economic self-interest through energy efficiency and clean energy development; concerns over vulnerability to climate impacts; ‘first mover’ status ahead of national action; concentration of expertise and policy networks in state capitals; alternative approaches to federal policy formation such as litigation and direct democracy; and the possibility to more readily respond to local and

often less contentious shifts in public opinion (Aulisi et al. 2007; Rabe 2008, Urpelainen 2009; Klinsky 2013).

Federalism is also a key enabling factor for the GCF. Most GCF members already function with considerable independence from the central governments, with 14 of the 26 states and provinces belonging to federal systems (Brazil, Mexico, Nigeria, and the United States). Of the remaining 12, 7 belong to devolved national-states (Indonesia and Spain), which confer significant law-making powers to the state level. Of the remaining GCF countries, Peru has enacted policies to decentralize forest management to the state-level in recent years, and Indonesia is considered to be a critical REDD+ country, with the third largest area in tropical forests after Brazil and the Democratic Republic of the Congo.

State and provincial climate policies are highly dependent on internal and national political priorities and economies. The most notable of these are renewable portfolio standards, carbon taxes, cap-and-trade systems, which have been implemented and maintained with variable levels of success. Most often sub-national governments have an eye on how these policies will advance not only their internal priorities but facilitate policy diffusion to other states or provinces, or shape future federal legislation from below. Again, the results of sub-national action are mixed, in regard to both climate and other policy domains (Rabe 2008). Being in the vanguard presents the potential risk of higher-levels of government pre-empting or invalidating state action. Alternatively, it can lead towards collaborative federalism, for instance, in a multi-level governance arrangement where sub-national and central governments set and coordinate separate targets. To date, however, there has been little to suggest that climate policy in the US is

taking this path. Instead, it resembles a third possibility, where states continue to devise bottom-up policy amid federal inaction. Over time, this abets the extension and coordination horizontally between states, even with those in other countries, which carries further implications for how global projects unfold, outside the ‘experimentation’ and ‘laboratories of innovation’ within individual sub-national jurisdictions.

In an institutionalist light, these three pathways for state-federal policy interactions—pre-emption, collaboration, independence—correspond to alternative configurations of authority, albeit in narrowly defined sphere like cap-and-trade. In the first, state authority is subsumed by national authority (autonomous national group); in the second, mutually understood institutions permit autonomy and interaction between state and national government (groups in a collective); and in the third, state authority is left to its own devices with few restrictions from diminished or absent federal governance (autonomous state group). The advantage of spelling out these political comparisons in institutional terms is that it helps us specify the lines of authority that may be drawn or re-drawn in the making of a global project, including lines between states and provinces, as well as the kinds of authority, which include not only overt decisions but also knowledge and moral vision, as we will discuss in later sections.

VI.1.4. Horizontal Interactions: Sub-national Partnerships - Transnationalism

The GCF is not the only example of sub-national state-to-state climate cooperation. Others have preceded it but not all remain active, and each has contended with challenges that are instructive to understanding how global projects come together or fall apart. In the US and Canada these include the Western Climate Initiative (WCI), Regional

Greenhouse Gas Initiative (RGGI), Pacific Coast Collaborative (PCC), Transportation and Climate Initiative (TCI), and, until recently, Midwest Greenhouse Gas Reduction Accord (MGGRA), and North America 2050 (NA2050). Of these, the WCI and RGGI are specifically focused on building a carbon market.

The WCI is particularly relevant for the current case, for, like the GCF, California is at the core of its transnational partnership. And, like the GCF aims to set an example for REDD+ writ large, the WCI was designed as “a powerful framework for developing a national cap and trade program” (Gregoire et al. 2007). Though launched in 2007, the origins of the WCI go back to the early 2000’s to initiatives devised to circumvent federal inaction on climate change, notably the 2003 California-Oregon-Washington West Global Warming Initiative (Klinsky 2013, Locke 2003). At its height, the WCI counted seven US states and four Canadian provinces as members. In January 2014, California and fellow WCI-member Quebec linked their cap-and-trade systems to permit the sale of allowances and offsets between the jurisdictions, with Ontario soon to follow.

The WCI emerged in a period of high hopes, when US federal climate policy seemed within grasp. In 2009, a federal cap-and-trade program moved one step closer when Congressmen Henry Waxman and Edward Markey’s American Clean Energy and Security Act (ACES) passed the U.S. House. The shared sense of momentum helped to pull even some conservative states into the WCI and a provision in the Waxman-Markey bill for 6 billion tons of supplemental reductions from REDD+ through 2025 likely had a spillover effect on the GCF itself. Many members of both the WCI and GCF also had enabling climate legislation, which facilitated the partnerships, though few had actual regulations in place. Both were spearheaded by governors and, typical for such

agreements, loosely structured through non-binding MOUs, reflecting authority distributed widely rather than concentrated in a single political sovereign. Economic incentives were also important to making the case “a broad geographic scope [would] reduce overall compliance costs and help mitigate leakage risks” (WCI, 2010a, Klinsky 2013). Finally, policy entrepreneurs and experts played a role in both initiatives, exerting influence in key technical and policy-making sites and multiple levels of governance.

The WCI experienced an “intense coalescence” between 2003 and 2008, but partially disintegrated by 2010 following stalled federal legislation in the US and Canada and an unreachd global agreement in Copenhagen (Klinsky 2013). The re-framing of economics from a net benefit to net cost, political polarization, shifting governors and legislatures, and growing public doubts about climate science took some wind out of the WCI. These challenges, however, are only partly applicable to understanding the GCF.

The GCF shares certain similarities with the WCI but differs in very significant ways having to do with the identity and relations of market players. First, the GCF membership is thoroughly transnational, with both states and provinces from seven developing and developed countries. Second, these members represented both potential buyers in jurisdictions with their own compliance cap-and-trade programs and sellers in jurisdictions that did not have their own compliance markets but would supply carbon offsets to those that did, with developing country suppliers far outnumbering developed country buyers. And, third, while all carbon markets require substantial investments in the regulatory, administrative, and technical infrastructure needed for those markets to function, these investments are particularly demanding in GCF members from developing countries. Few such jurisdictions have even a basic capacity to monitor emissions from

deforestation and forest degradation and, in many cases, lack clear land tenure, property rights, and other institutions taken for granted in the developed world.

While the WCI shrunk after 2008, the GCF nearly tripled its membership. In part, this has to do with continued progress on REDD+ in the UNFCCC relative to the negotiations on a Post-Kyoto agreement. But REDD+ was stymied by this impasse too and local and national REDD+ efforts proved much more taxing than originally imagined. Nevertheless, the GCF has weathered the uncertainty, in part, I argue, by reinventing itself to build institutions for knowledge-sharing and agenda setting. These epistemic and moral dimensions are also major features of (in a negative sense) the orchestration challenge in the case studies of California and Chiapas. To inquire more deeply into the divergent paths, purpose, and character of the GCF and WCI, I take a constructivist lens to those cases, as explained in the next section.

VI.2. Constructivism - Knowing and Governing

VI.2.1. Constructivism

The preceding section discussed the institutional structure of global projects. To this, a constructivist perspective demands an account of the norms, discourses, knowledge, legal and technical practices, and other basic categories often taken for granted in international environmental politics and law. Both institutionalism and constructivism counter top-down, nation-centric models of international power and politics. Both approaches also deny the common view that globalization results from autonomous technological and economic forces. In contrast to institutionalism, however, constructivism emphasizes the subtle and intimate ties between knowledge, power, and discourse. These ties are

significant for two reasons. First, constructivist studies are attuned to the content of particular knowledge claims and the multiple forms of knowledge that, in principle, might be applied to any particular policy problem. This makes it possible to ask questions about values and interests embodied in knowledge claims, and why certain knowledge claims come to be seen as credible or relevant and others not. Second, knowledge matters not only for the material outcomes it generates but also for how it stabilizes or undermines political and social order. Constructivism is therefore concerned not only with the use of knowledge in problem-solving but also the legitimation of authority, coordination of action, and formation of social identities and political communities.

This perspective confers the advantage of making it possible to ask questions that escape accounts of institutions, actors, and interests alone. What it loses in terms of institutionalism's generalizability, constructivism gains in the subtlety needed to grasp new beliefs, subjectivities, categories, and the like as they come into being, shaping and being shaped by the institutions, actors, and interests around them. It is critical to train the analytic microscope at this level of detail if we are to expand questions about governance, politics, power, and justice to both knowledge-making and decision-making. This calls for detailed interpretations of "empirically, grounded study of thick policy contexts" (Boyd 2010), eschewing parsimonious explanations about an emergent and complex governing arrangement when the character of that arrangement is the very thing that needs explaining.

Governing techniques are far from isolated tools to understand the world; they knit themselves to the quotidian routines of governance. These routines are encapsulated by *regimes of practice*—or the complex ensembles of knowledge and scientific and

technical practice (*episteme*), institutions and techniques of administration (*techne*), and identities (*ethos*) that are oriented towards a given end (*telos*) (Dean 2003). These regimes comprise an:

ensemble formed by the institutions, procedures, analyses and reflections, the calculations and tactics that allow the exercise of this very specific albeit complex form of power, which has as its target, population, as its principle form of knowledge, political economy, and as its essential technical means, apparatuses of security. (Foucault 1991: 102).

Most every liberal democracy has, for instance, regimes of practice for reforming criminals, curing the mentally ill, identifying at-risk youth, and demarcating safe levels of contaminants in food. They embed particular ways of producing power, truth, and identity that, in turn, are embedded within an overarching *governmentality*, like that of the health care or criminal justice system. Here, government is the conduct of conduct, carried out through circumscribed routines for thinking and intervening towards certain ends. Following Durkheim and other early sociologists, as well as the historians of the Annales school, the approach views thought as a collective activity (Rose 2006). These are ways of thinking that privilege rational thought as a necessary means of government and refer to “any way of reasoning, or way of thinking about, calculating and responding to a problem, which is more or less systematic, and which might draw upon formal bodies of knowledge or expertise” (Dean 2003). The mentality of government and

accompanying rationalities, techniques, and subjectivities can be oriented towards the one who governs others, one is governed by others, or one who governs oneself.

VI.2.2. Constructing Governing Regimes - Techniques of Globalization

A constructivist reading of global projects like the GCF reveals that the building blocks of environmental governance—policy, science, law—are not diffused evenly throughout the planet and its peoples like some rarefied globalizing ether but rather fragmented across sub-national pockets of political and epistemic order. To get a handle on how these threads are strung together, the analyst must investigate how regimes of practice are constituted through “instruments, ideologies, calculative rationalities, expert systems, networks, legalisms” and other *techniques of globalization*. Since we are interested in how these techniques pull the global project into being, we must examine how they work themselves into “national and sub-national institutions and what this entails for efforts to coordinate efforts across various jurisdictions” (Boyd 2010).

Indeed, one of the chief tasks the GCF sets for itself is to build the technical and administrative capacity of its members to monitor forest carbon, translate that carbon into a new kind of financial asset, and circulate that asset in a common carbon market. Thus, GCF’s 2009-2010 Joint Action Plan, the core guiding document formalizing the initiative, recommends the:

development of the substantive frameworks, protocols, principles, and criteria necessary to link the future generation of compliance-grade forest carbon assets in Brazil and Indonesia with emerging compliance regimes in the United States and

elsewhere, with particular attention to forest carbon accounting, crediting, and monitoring issues.⁸

To do this, the GCF emphasizes shared scientific, technical, and legal expertise for promoting technical cooperation, building capacity and developing policy recommendations. These activities are organized across three working group to provide: project-level standards and criteria for REDD activities; forest carbon accounting frameworks and integration and coordination mechanisms, and technical, legal, institutional, and financial needs assessment for moving toward compliance-grade REDD activities. The initiative has also hosted capacity building programs with in Brazil, Indonesia, Peru, Mexico, and Nigeria under its regional GCF Training Program, on technical and legal topics such as the cross-scale integration of monitoring, reporting, and verification of forest carbon; strategies to change national law and policy; cross-sectoral policy alignment; field visits; and an e-learning course on integrated forest management.

The green economy is being built out of these modest and incremental activities. Their aim is to standardize the measurement and valuation of carbon so that it can travel in global circuits of capital. Standards are needed to establish an equivalence between ecology and economics (MacKenzie 2009). They are what Larry Busch (2013) calls ‘recipes for reality’, in this case the imagined reality of planetary transformation.

Regimes of practice, standards, protocols, best practices, and so forth represent a particular episteme (and hence pathway and design logic) for constructing the green economy. Success is not guaranteed. Any of these links that pull together the regime—

⁸ GCF Joint Action Plan (2009-2010). August 2009. available at: <http://www.gcftaskforce.org/documents/GCTF-1000-2009-031.pdf>

episteme, telos, techne, ethos—could fail, making the venture far from the all-encompassing disciplinary power sometimes attributed to governmentality. Boyd cautions that REDD+ is fragile and uncertain.

First, epistemic and ontological uncertainties threaten to undermine the equivalence between carbon as a material entity and carbon as a financial asset. Resolving technical and financial uncertainties within a unified episteme calls for the creation and negotiation of social and technical practices within and between finance and economics, and climate science and ecology. For the former pair this means, in part, reducing capital risk through credible carbon measurement and monitoring, while for the latter it calls for adapting scientific methods, standards of evidence, and acceptable levels of uncertainty to produce carbon units appropriate to the strictures set down by finance and policy.

Second, stabilizing a new regime means infusing measurement and monitoring into administrative routines of reporting and verification. (The abbreviation MMRV for Measurement, Monitoring, Reporting, and Verification, often just MRV, itself indicates this integration of episteme and techne.) In addition to implying what credible knowledge looks like and how it is obtained, standards always also imply the identity and behavior of the standard-setter (Busch 2013). Thus, the GCF training workshops and working groups emphasize sharing best practices and building the administrative capacity to turn units of carbon into units of carbon credits. Bureaucratic inertia, inter-agency competition for resources, divergent mandates, and differing cultural expectations conspire against the easy integration of knowledge into practice, hence a proliferation of inter-agency commissions among GCF members, often centralized under the office of the governor.

Third, capacity building is not only about knowledge and practice but also inculcating a shared ethos. Standard-setting a process of building a sense of community and trust. It involves developing a shared mutual understanding of the roles, rights, and responsibilities—the institutions—needed to facilitate any social interaction. These may be formal but often aspire to be internalized into the subjectivity of the governing and the governed, who may be one and the same. This can have profound implications in social identity and responsibility, as when the decentralization of forest management transformed villagers in the Kumaon region of Northern India from seeing themselves as victims of centralized forest policy to self-identified forest stewards.

Fourth, and perhaps most significantly, the regime requires a common telos, which may be undermined in at least two ways. One is policy uncertainty. The GCF was established under the belief that a carbon market for REDD+ would soon be at hand. However, California regulators are yet to accept REDD+ credits and hopes for a global post-2012 market have receded. The ends of the GCF were called into question, causing the initiative to reinvent its purpose away from a narrow focus on carbon markets to a more general one on low-emission rural development. The other teleological uncertainty is over the ends to which politics and power are exercised. The GCF has provoked vocal resistance over groups that saw the green economy as cover for green-grabbing aimed to deliver forests into the hands of corporations and the state and away from local communities. At times, teleological disputes rise to the level of ontological politics, for instance, when indigenous groups argue that carbon markets overlook and sever intimate ties between forest people and forest communities.

This fragility itself is an important topic of investigation speaking to the multi-faceted problem of harmonizing standards horizontally across the different, often vastly different, political cultures of the GCF, and vertically with local, national, and supranational levels.⁹ We are interested in the transformation of a centuries old political and economic order of global scale. Given the magnitude of the change in question, even halting efforts to build REDD+ from the bottom-up offer noteworthy insights into an emerging regime. The dissertation explores these questions by zeroing in on key struggles over REDD+ in Chiapas and California, with an eye towards the political, institutional, cultural, and epistemic mechanisms by which such struggles are opened up or closed down. Answers to these questions offer a window to potentially momentous but less easily discerned constitutional questions around the relation between knowledge, governance, and global change. To this we turn in the next section.

VI.3. Globalization and Constitutional Change

VI.3.1. Re-thinking Globalization

In this section I return to the issues surrounding the politics of transformation that motivates this study. The preceding sections on institutionalism and constructivism discussed theoretical tools to zoom in on particular configurations of knowledge and institutions in environmental governance. Here, I step back to situate the dissertation within the broader frame of globalization and constitutional change. The ambition of states and provinces to lead a planetary transformation is hardly a modest one, heralding

⁹ In general, I follow the distinction between scales and levels, with the former referring to spatial and temporal dimension and the latter hierarchical tiers of political and social organization (see, for example, Cash et al. 2006).

change at the broadest and of deepest levels. Explaining institutional change, however, much less global and constitutional change, has proved to be a great challenge for the social sciences (Young 2008). Part of the problem is the tendency to treat the local, national, and global formations and comparing them in toto against one another (Sassen 2006). This only serves to perpetuate popular notions that local communities are helpless victims to globalization's juggernaut or paranoia over a cabal of "geoplutocratic 'elite' bent on global domination".¹⁰

We therefore need to go beyond thinking of globalization simply as the trait of an increasingly complex and interdependent economy or a layering of supranational government over the international community of states whose members willingly cede authority to secure collective action for the greater good (Miller 2001a, 2001b, 2004a, 2004b, 2007, 2015). According to Boyd (2010):

The point, though, is not to debate the analytical merits of globalization (a polysemic term to be sure), but rather to avoid ascribing causal logic to a single, totalizing process. By focusing instead on the relationships, linkages, and mechanisms that constitute globalizing processes, we can understand and explain how particular actors, institutions, practices, and places cohere in specific global assemblages.

The dissertation builds on Miller and Boyd to understand globalization as the reorientation of long-standing forms of political order within the nation-state itself

¹⁰ Boylan, Dylan. The Cabal.
http://www.bibliotecapleyades.net/sociopolitica/sociopol_cabalelite.htm

towards global problems. My objective is not to explain this process in a causal sense but to draw on detail-oriented institutionalist and constructivist thinking to describe and interpret specific cases where novel alignments of global knowledge and governance to offer insights into how the globalizing process is proceeding through sub-national partnerships. By conceiving of the GCF as a global project, the dissertation positions the local, national, and global in relation to each other, helping us to understand how these complex formations mutually condition and legitimate one another under a globalist rubric (Jasanoff and Long-Martello 2004).

VI.3.2. Globalism - Science and Administration in the Global Environmental Imagination

What makes these projects global is not their independence from the governing institutions of the nation-state but the ways they re-articulate existing regimes of knowledge and practice towards global ends. That is, global projects are an expression of *globalism*—“the explicit framing of policy issues as being capable of identification, analysis, and management on scales no smaller than the planet as a whole” (Miller 2007). Globalism justifies these projects, and they, in turn, abet the movement away from government centered on the nation-state towards multi-valanced governance fragmented across a mesh of actors, sites, and scales. In doing so, they draw on unifying global norms, discourses, and practices, while also diversifying them back into the new legal, technical, political, and institutional spaces that such maneuvers open up.

While a global imaginary of some sort or another has existed for centuries, none has taken the global environment as an entire system unto itself until the latter part of the twentieth century (Jasanoff and Long-Martello 2004, Miller 2007, Miller & Edwards

2001). In the decades following World War II, globalism emerged from an ontological shift from the belief that worldwide ills like war and disease were ultimately problems that originated inside, and could be managed by, nation-states to the view that they were the emergent risks of an interconnected global system. The international architecture set up in the wake of World War II and the decades previous were of an older order, built by and for the world community of states. When founded in 1944 and 1945, the Bretton Woods institutions and United Nations were not different in kind from the League of Nations established in the fallout of the First World War. Their common purpose was to fashion ‘One World’, where nations would peaceably settle disputes and promote economic prosperity on behalf of their citizenry (Miller 2001b, 2015).

Globalism, by contrast, built upon the power of a vast, post-War socio-technical monitoring and modeling infrastructure (Edwards 2010) to reveal systemic global risks far beyond the control of any individual nation-state. Within a few short decades, climate came to be seen not simply as long-term average weather in a particular place but the patterned dynamics of the complex biogeochemical system of the Earth as a whole. The planetary scope rendered new domains of governance thinkable, ushering in a new breed of global institutions and specialized agencies like the International Monetary Fund and World Health Organization for understanding and managing systemic insecurities like epidemics and financial risk that individual countries were powerless to prevent (Miller 2007). As a result, globalism has reshaped international institutions into global ones, restructured centers of power and authority, and greatly expanded the scope of environmental governance, and the administrative and accounting practices that go with it.

Yet, global knowledge does not determine these governance arrangements in a linear or straightforward way, for reasons of both contingency and complexity (Allenby and Sarewitz 2011). As previously discussed, the elements of governing regimes—episteme, techne, ethos, and telos—must come into alignment for the regime to stabilize. This is a political, social, and epistemic process, which draws from a pool of resources that cannot be definitively identified a priori and the outcome of which cannot be fully known in advance. The complexity of global problems and the open-ended nature of the publics they are said to afflict greatly amplify the number and variety of possible governing arrangements. The failure to anticipate and adapt to these dynamics can undermine the stability and effectiveness of the regime in question. Indeed, the UNFCCC seems to have followed such a path. Premised on the idea that climate change was essentially a problem of atmospheric CO₂ concentrations, rather than, say, consumption or energy production, the regime pursued a global managerial approach of top-down emission controls, which has failed to enact the depth and extent of governance transformations intended.

Contingency and complexity, however, can open as many doors as they close. As engines of globalization, global projects like the GCF work to re-imagine and re-articulate how global problems are known and governed at sub-national scales and levels of political administration. Thus, they seek to render new spaces legible and governable—spaces distinct from either the nation-state or supranational world politics that have been the focus of environmental politics to date. This makes it all the more critical to attend to the underlying political and constitutional changes at stake, and the

modes of public accountability needed to guide them forward—changes that, at their deepest level, are constitutional.

VI.3.3. Constitutional Change

The transformation from a national to global order portends a shift as potentially disruptive as the move from the monarchical state to the modern nation-state and liberal democracies that followed. That shift issued from the 18th century arrival of the idea of the economy and the population as entities that existed outside of and independent from the state (Dean 2003). Much like the earth system sciences hatched the notion that global systems do what they will do independent from the sovereign will of nations, human populations and the economy came to be seen as self-regulating things. The resulting ontological perplexity posed a dilemma: Should a sovereign power intervene to manage these entities or leave them to their own devices? If so, when, how, and to what ends? Over centuries, sovereign and disciplinary power grappled with these questions, morphing and merging to eventually yield the governing regimes we know in modern liberal democracies today. Centered on problems of security, population, and administration, these regimes constituted a new, subtle form of power—governmentality—reappearing in contemporary debates over the proper division between the government, free market, and popular will (Taylor 2003).

These amount to constitutional questions about “a form of rule which both empowers a government to carry out the range of functions associated with the modern interventionist state and excludes arbitrary and despotic forms of rule” (Walker 1996). Here I follow Sheila Jasanoff, who takes “the heart of constitutionalism” to entail the

“preservation of balance: between enabling and constraining power, and between individual and societal demands.” This expansive definition finds constitutions not only in written texts, legislative decrees, or constitutional jurisprudence codifying common norms (Tribe 1978) but also basic ontological commitments, such as the nature of the state and the identity of the beings to be granted rights to protect them against state action.

In globalization, Jasanoff (2003) finds a “constitutional moment”, where science and technology play an under-theorized role in reworking the basic organizing principles of society. The idea extends Bruce Ackerman’s (1991, 1993, 1998) proposal that such moments as the Founding, Reconstruction, and New Deal are responsible for ‘America’s living democracy’. At times like these, politicians transform existing institutions and practices towards new ideals. Globalization presents just such a constitutional moment, Jasanoff argues, that top-down explanations of constitutional change as issuing from the national (Ackerman 1991), regional (Grimm 1995, Walker 1996), or global level (Hardt and Negri 2000) cannot address. Instead globalization triggers fundamental changes from the bottom-up through, among others, new definitions of self, identity and community; the empowerment of consumers as right-bearing agents; and, most relevant for our purposes, the meteoritic rise of the ‘global sciences’ in environmental governance (Jasanoff 2003).

VI.3.4. *A Framework for Analyzing Globalization and Constitutional Change - Territory/Authority/Rights - Capabilities/Organizing Logics/Tipping Points*

The idea that globalization presents a constitutional moment strikes a chord with sociologist Saskia Sassen's thinking on foundational global change. Sassen (2013) likewise sees the global at work in the transformation of national institutions and practices towards global ends:

...the history of the modern state can be read as the work of rendering national just about all crucial features of society: authority, identity, territory, security, law, and economic accumulation....[Today] Global firms, global market, global subjectivities, human rights, and other kindred figurations entail the denationalizing at least some of the components of the national. Thus even entities structured inside thick or highly formalized settings can *undergo foundational transformations*. [Italics added]

Foundational and constitutional change are close cousins, with the former foregrounding structural aspects and the latter normative and interpretive ones. I treat them interchangeably here. Both entail the reconfiguration of transhistorical elements that are common across societies, like those identified in the quote above: authority, identity, territory, security, law, economy.

Global projects like the GCF figure a transformation of this very kind. In the dissertation, I explore the relationship between constitutional/foundational change and globalism/global knowledge by framing sub-national transformations for the green

economy as a global project, and taking that frame to launch a detailed, empirical investigation of the co-production of global knowledge and new forms of territory, authority, and rights. I have outlined the institutionalist and constructivist perspectives on global environmental governance above. I combine these with Sassen's framework to make sense of those detail-oriented approaches within a broader theorization of globalization. By doing so, I hope to sharpen the insights from this work and extend its relevance to the broader scholarship on global environmental governance and change.

Forms of global order are fragile, specialized, and shifting, which means they are only partially legible, calling for theoretical and methodological innovations in the social sciences. Sassen (2006) offers a conceptual framework for understanding emergent forms of order in a sweeping account of the reconfiguration of territory, authority, and rights in two grand historical transformations, from the feudal era to the nation-state, and the nation-state to the global. It is a provocative thesis, aiming to shake the mistaken conviction that one will spy the globe by looking up. Up is the world system where the nation resides, a secular godhead and Olympus above. The globe is where it has always been: underfoot.

The framework is made of three core concepts (Sassen 2006), which help situate the GCF within broader globalizing trends: organizing logics, tipping points, and capabilities. First, the configuration of foundational elements reflects an *organizing logic*, which refers to “the centrifugal/centripetal dynamic and the relational system that constitutes order, in our case a social and geopolitical order.” In modern times, the centripetal dynamic centralizes exclusive, political authority in the nation-state—a dynamic that also characterizes the logic of global managerialism, whereby upward

modes of accountability hierarchically concentrate geopolitical power in supranational institutions to which nation-states have ceded sovereignty to facilitate collective action in the face of common global threats. A centrifugal dynamic, by contrast, was the kind of order found in feudal Europe, where crisscrossing lines of decentralized authority and rights were not collapsed in a unified geographic territory like in the later nation-state. Today, globalization presents an analogous centrifugal dynamic, where unconventional global actors like sub-national governments, transnational expert networks, social movements, and venture capital organize into specialized arrangements to address particular problems. The resonance with the GCF's sub-national agenda to create carbon markets from the bottom-up is clear.

Second, *tipping points* signal the movement from one organizing logic to another, manifest in current times from the national to the global. As remarked earlier, however, it is a mistake to assume that the national and the global are discrete or opposed. Global logics are not total—they do not replace the nation-state—but they do denationalize foundational/constitutional elements of political order, often articulating themselves with supranational orders like the UNFCCC that nation-states themselves produced. Thus, the centripetal logic of global managerialism envisioned in the early decades of treaty-based environmental governance is not antithetical to the centrifugal logic expressed in initiatives like the GCF. Rather, supranational governing structures help constitute a tipping point from one organizing logic to the next, by fostering globalism and global institutions, which are then refracted back into plural, fragmented social and epistemic orders—state and regional carbon markets like California's being a prime example.

Third, specific *capabilities* tip orders from one organizing logic to the next, meaning globalization cannot be chalked up to the autonomous push of faster communication technologies or denser economic ties. Capability is a general term that refers to the power to configure foundational/constitutional elements in particular ways. In regard to the GCF, capabilities can be seen as the institutions or regimes of practice for making forest carbon legible and governable. By thinking of capabilities (i.e. regimes of practice) in this way, it becomes possible to see how existing capabilities are both contingent achievements and resources that can be re-deployed for purposes they were not intended. Sassen, for instance, documents how globalization proceeds to denationalize existing national institutions not by over-riding them with greater authority but re-orienting the institutional and legal machinery of the nation-state to global ends. Two capabilities, in particular, facilitate globalization in such a manner, and both are central to the GCF. One is that, as an initiative of governors, the GCF represents the extension, or attempted extension, of executive power. The other occurs as the states and provinces of the GCF work to advance their goals through extension of private authority and leveraging of private financial, symbolic, social, and epistemic resources.

VII. Summary of Chapters 2-6

Part I. Policy History of REDD+ in the UNFCCC and Voluntary Market

Chapter 2 - Calculation, Law, and Scale: Local, National, and Nested Proposals for REDD+

The chapter theorizes global environmental law-making as a capability of states in the international community designed around certain conceptions of global collective action.

It argues, however, that the problem of enforcing collective global action has not been resolved by means of political power or institutions alone. Rather, it builds on the institutionalist and constructivist literature to make the case that this global political power of states is increasingly buttressed by private expertise. The chapter focuses on how each of three carbon accounting proposals for avoided deforestation—project, national, and nested—bear a distinct organizing logic, reflective of the particular problem framings of the actors who framed them. In particular, it highlights how these framings led to different answers to the question, “What is the right scale for RED?”—framings that carry important constitutional implications, for example, in regard to basic notions of causality, agency, responsibility, participation, and the public. By doing so, this chapter serves as groundwork for the following four chapters, which trace the movement and negotiation of these three proposals from the international space into sub-national projects and programs.

Chapter 3 - Standards of Trust in the Voluntary Carbon Market: Financing Local-Scale Projects and De-Risking the State

This chapter continues with ideas and actors introduced in Chapter 4, as they moved from the international space to the voluntary carbon market. It uses the case material to show that the development of private expertise for REDD+ standards was most immediately a response to demand from other private actors. As an intermediate step between paper proposals and the adoption of private standards by governments, this complicates the understanding of private carbon market standards as a response to anticipated public demand.

The first part of the chapter recounts how conservationists and developers overcame barriers to investment by consolidating a hodgepodge of carbon accounting standards into a small number verification and validation standards under centralized third-party certifiers. The chapter describes this process of consolidating third-party certification as the development of the capability of the network of project developers in the voluntary market to generate a new form of economic value based on the calculation of avoided carbon emissions in a delineated project area. In very general terms, capability can be understood as the potential for a network of actors to configure foundational, or constitutional, interdependent-elements of natural and political order, such as territory, authority, and rights.

The most notable of the standard-setting organizations was the Verified Carbon Standard, which, as both an organization and set of verification and validation practices, incorporated carbon accounting and financial expertise to gain the trust and credibility needed to secure high-risk investment capital for REDD+ projects. Yet, while the VCS and other standard-setters succeeded in attracting private capital, they often employed rhetoric and practice that ignored or even undercut the authority of the governments whose help they ultimately needed to legislate the compliance market that the voluntary market was to be a precedent for.

The second part of the chapter reviews two mechanisms—political risk insurance and a variation on ‘nesting’ projects—that private sector developers devised to mitigate ‘government risk’ that posed an additional barrier to attracting capital investment. These cases show that the standards of trust devised between the project developers and

financiers through the VCS and related efforts stand in stark relief to the distrust the private sector displayed towards host governments.

Part II. Making Sub-national Carbon Markets in California and Chiapas

Chapter 4 – Carbon Territory: Risk, Scale, and Finance in Jurisdictional vs. Project-based REDD+

This chapter contrasts the private sector led initiatives discussed in Chapter 3 with an initiative launched by California and sub-national government partners in Brazil and Indonesia called the Governors' Climate & Forests Task Force (GCF). Like project developers had in the VCS, the governments in the GCF sought to create a platform to develop techniques, frameworks and other technical and administrative measures to build a carbon market for REDD+. The GCF, however, did this in very different ways that had to do with the fact that it was not building a voluntary market, like the VCS, but a compliance market for California's new cap-and-trade program. One of the key differences is that the VCS was organized around local scale projects (102-105 ha), which were the kind of initiatives that the private sector could develop and finance. The GCF, by contrast, aimed to create carbon accounting mechanisms at the much larger scale of sub-national political jurisdictions (104-107 ha).

In order to understand why the GCF opted for the larger scale, and the constitutional implications of that choice, the chapter presents the concept of the global project, as developed by international environmental law scholar and senior GCF adviser, William Boyd. According to Boyd, the concept offers an alternative lens view global environmental governance that calls attention to the way global problems and proposals

like REDD+ are reworked in national and sub-national settings that scholarship on international environmental governance has typically overlooked in favor of a narrow focus on the nation-state as a singular, unitary actor. Global projects center around particular, specialized, and limited activities and thereby become a mechanism by which the global organizing logics—such as the three RED proposals presented in Chapter 2—escape conventional spaces of supranational governance, like the UNFCCC. The chapter presents the GCF as an example of a project that orients sub-national knowledge and institutions towards the problems of global forest loss and climate change. In particular, it discusses the technical and administrative practices, or techniques of globalization, that confer the GCF with the capability to create and order sub-national political and epistemic spaces conventionally thought to be the exclusive remit of the nation-state.

The chapter explores territory as one key dimension of the capability produced through the GCF. The GCF prioritized jurisdiction-wide carbon accounting, rather than the project-level accounting developed in the voluntary market, because regulations for California's cap-and-trade program require that any forest offsets originating outside the U.S. be issued at the jurisdictional scale. Several cases illustrate the political and legal obstacles project-scale offsets presented California regulators, flipping the 'government risk' facing the private sector into a kind of 'private risk' facing regulators in California. California regulators' framing of the problem reflects their objective to not only produce new forms of economic value, as in the voluntary market, but also in ideas and concerns over political territory.

A main central idea in this chapter is the notion of ‘carbon territory’ as a political technology where new scales of knowledge and governance are being made. The next two chapters tie this idea to two related notions: ‘carbon authority’ and ‘carbon rights’.

Chapter 5 - Carbon Authority: The Authorization of Private Transnational Expertise

This chapter is a study of the new, crisscrossing lines of authority needed to hold together market infrastructure. It proposes carbon authority as a complex category to account for transnational lines of private authority that go unrecognized in state-centric understanding of global governance. In particular, it focuses on the authorization of expertise from private standard-setting organizations and affiliated conservation groups covered in Chapter 3. The chapter contrasts California Air Resources Board (ARB) success in securing authority for its carbon market, with the difficulties the Governor of Chiapas faced in securing authority to sell credits in that market. The chapter argues that the failure to anticipate these challenges is partly a result of a state-centric view of global governance, underscoring the need to recognize the tacit authority and, by extension, responsibility of private actors to orchestrate public policy.

This chapter examines ‘carbon authority’ as a second form of order being produced alongside ‘carbon territory’ through the work of the GCF and its member states. It argues that the forms of political and economic territory being devised to bring carbon markets in line with California’s regulatory requirements also open new forms of sovereignty over those spaces. The chapter uses case material from California and the GCF-partner state of Chiapas in Mexico to investigate how the production of sub-national territories and the economic value they contain lead to the extension and creation of

political institutions needed for their design, calculation, and administration. These institutions can be said to embody new authoritative spaces because in no direct way do they answer to a higher national authority and often exist without any national counterparts at all. The chapter focuses on how this process is unfolding in two respects: 1) by redistributing decision-making and agenda-setting power towards the executive, and 2) allocating epistemic authority towards private and non-governmental actors.

The first part of the chapter begins with a discussion about why governors (as opposed to another division of government) spearheaded the GCF. It then elaborates on these reasons, and the resulting regulatory, programmatic, and institutional endeavors, as played out in Chiapas, which, along with Acre, Brazil, signed a Memorandum of Understanding with California in 2010 to work together towards the issuance of compliance-grade REDD+ offsets for the California market. In particular, it probes the ways that the new political and economic territory opened in Chiapas by the production of those credits in line with California regulatory requirements echoed ongoing efforts by the governor's office to make legible and incorporate indigenous communities into the state polity and economy—communities with long-standing disputes over land tenure amongst themselves and the government, most emblematically in the Zapatista rebellion in 1994.

The second part of the chapter recounts how the epistemic authority to determine and carry out carbon accounting was, in large part, allocated to quasi-governmental, non-governmental, and private sector organizations. In-house regulatory expertise in California, much less Chiapas, proved insufficient to devise de novo the rules, protocols, standards, methodologies and other techniques to validate and verify the jurisdictional-

level offsets mandated for California market. To redress this gap, both states engaged outside experts to recommend and conduct such calculations, including through a two-year advisory process funded by the Moore Foundation, the creation of expert networks in the GCF, and a mapping and feasibility study conducted by Conservation International on behalf of Chiapas. Most importantly, the project developers in the VCS assumed a central role in this process, which offered a powerful position to reassert the role of projects that would otherwise be left out of a jurisdictional framework.

The chapter closes by suggesting that the extension of executive and epistemic authority is not accidental to the heterogeneous and specialized character of global projects, proposing that the flexibility and specialized expertise needed to extend ambitious global initiatives like the GCF afford authority to actors otherwise locked out of stable, unconventional systems of government.

Chapter 6 - Carbon Rights: Remaking Property and Community

This chapter looks at how configurations of territory and authority emerging in California and Chiapas relate to the production of rights (and responsibilities) for citizens and private entities operating in these states. ‘Carbon rights’ determine such things as the standing of citizens to design REDD+ projects and programs, entitlement to the distribution of benefits from the sale of carbon offsets, and the definition and contractual exchange of property rights to those offsets.

The chapter explores the origin and character of such rights and their ties to novel configurations of territory and authority discussed in the previous chapters. The first part of the chapter inquires into a political challenge by citizen groups and Democratic

legislators in California who sought to overturn a provision in the state's cap-and-trade regulations for the potential sale of carbon offsets originating in jurisdictions outside the U.S. By working through existing legislative channels and air quality laws, these groups aimed to improve air quality in California by attaching additional meanings to "the carbon offset." Though ultimately unsuccessful, concerned citizens and their representatives hoped to harness a new regulatory entity into a vehicle for local environmental justice, in addition to the global concerns for which the market was originally intended.

The second part of the chapter turns to rights-making in Chiapas. In contrast to California, where concerned citizens used existing laws and law-making capacities to reframe a novel entity, in Chiapas, local communities and indigenous groups encountered "the carbon offset" as an already stabilized entity even as they themselves were poorly defined as citizens. As discussed in the previous chapter, Chiapas' long history of conflict leaves sizable areas outside of state control. REDD+ territories therefore offer state authorities a way to extend their presence into unruly areas and transform the people living in those areas into legible subjects. This process extends beyond mapping and administering carbon governance to include forest people themselves in the envisioning and design of REDD+ initiatives. To illustrate how this process creates new REDD+-related roles, responsibilities, and identities for marginalized communities, the chapter dissects deliberative institutions created for the explicit purpose, including a discussion of the 'ideal' stakeholder as formatted inside these institutions. The chapter then contrasts this form of inside engagement with protests and other forms of outside resistance, which see the distribution of costs and benefits of REDD+ as unjust, and more fundamentally,

incompatible with their own conceptions of legitimate authority and territorial claims.

The chapter closes with a reflection on the significance of these two poles for exclusion and inclusion in emerging spaces for knowing and governing the globe at the sub-national scale.

CHAPTER 2
CALCULATION, LAW, AND SCALE: LOCAL, NATIONAL,
AND NESTED PROPOSALS FOR REDD+

I. Introduction

This chapter complicates the usually straightforward narrative around REDD+, where policy and technique travel on separate paths until their fates converge in a global agreement on how to manage and measure forest carbon. The narrative presented here instead recounts the entwined histories of global law-making and scientific and technical progress on avoided deforestation from the mid-1990s to 2014.

I present and analyze this narrative as an empirical and theoretical backdrop for the rest of the dissertation. Section II recounts three key theoretical concepts for understanding foundational changes in the social order, which were first introduced in Chapter 1: capabilities, organizing logics, and tipping points. It elaborates several related ideas, such as scales and techniques of globalization, and their methodological implications, that are particularly salient to the climate governance.

Section III provides examples of how the concepts relate in practice and their applicability to governance write large. It also refines the generic notion of capabilities to emphasize the interaction of: 1) extant and emerging capabilities, and 2) distinct capabilities for making public laws and private calculations expertise (civil regulations) as these are running themes of the dissertation. The case material in Section III serves two purposes. First, it ties the theoretical notions above to REDD+. Second, explores the interplay between extant global law-making capabilities for REDD+ and emerging technical capabilities for measuring, monitoring, reporting, and verifying forest carbon.

These calculative technique three proposals for carbon accounting at different scales: the project, national, and nested approaches.

Section IV argues that behind a general economic logic, these three scales entail very different constitutional assumptions that go to the heart of the division of public and private domains, such as the identity of economic actors, drivers of deforestation, and legitimate forms of political participation. The discussion and conclusion argue that these underlying assumptions go to the substance of calculation itself, which carry major but under-explored implications for global law-making.

II. Theorizing Capabilities, Organizing Logics, and Tipping Points

The climate policy debate is full of talk about dangerous tipping points. IPCC AR5 warns that climate change may trigger tipping points, or “thresholds for abrupt and irreversible change”. At times it is said that climate policy itself is at a tipping point, requiring a “radical rethink” to avert the crisis of Kyoto’s failure to deliver significant emission reductions (Prins 2008). Often the fear is that climate policy must tip soon for the better lest action comes too late. Rarely do debates countenance that the legal and technical systems underlying climate policy may be subject to abrupt or irreversible change.

I argue that thinking about legal and technical capabilities in terms of linked socio-technical systems is useful for understanding tipping points in climate policy because it calls attention to the connection between capabilities and constitutional or foundational changes in social organization (Sassen 2006; I recount the concepts here because they are central to the dissertation; for a more detailed discussion see Chapter 1, Section V.3.4.).

Organizing logics are the configuration of foundational/constitutional elements. This includes the definition of political territory, authority, and rights, and their relationship to each other. At the most general level, organizing logics can take a centripetal form that concentrate these elements (e.g. the sovereign nation-state) or a centrifugal form where they are overlapping and dispersed (e.g. feudal Europe).

Tipping points mark the movement from one organizing logic to another. At the largest scale, tipping points mark momentous shifts, namely the transition from the feudal order to the nation-state or, potentially, the fracturing of nation-states through globalization today. At this scale, sweeping worldwide changes unfold across decades and centuries. Organizing logics and tipping points, however, are scale-dependent.¹¹ They may trigger shifts across scales or systems. Tipping points do not simply happen—they are enacted through capabilities.

Capability is a general term that refers to the power to configure foundational/constitutional elements in particular ways. Examples of capabilities in carbon markets are various ‘techniques of globalization’: the technologies, standards, practices, and expertise for quantifying forest carbon; the laws and regulations for holding firms accountable for their emissions; and the international treaty-based system to set binding national emission targets.

Methodologically, this does two things. It means that organizing logics, capabilities, and tipping points may be found at different scales. It also suggests that

¹¹ Here, scale refers to the spatial and temporal extent and variability of the system in question. The difference or similarity between forms of organization (e.g. systems, assemblies, networks, etc.) is beyond the current discussion may be relevant to theorizing capabilities, organizing logics, and tipping points. I treat them synonymously here, with the understanding that some level of coherence and coordination apply across the entity in question. Also see discussion of global projects in Chapter 1.

smaller scale changes, in legal or technical capabilities for carbon markets, for example, may foreshadow or yield larger transformations in global governance.

III. Extant and Emerging Global Capabilities

I distinguish between ‘extant’ and ‘emergent’ capabilities. I use these adjectives (rather than, say, ‘old’ and ‘new’) because they indicate history and continuity—emergent capabilities can build on extant ones. It also implies that conflicting capabilities can co-exist. The purpose of this is to: 1) connect to ideas for thinking about how capabilities are built, like practice, network, bricolage, and assemblage, and 2) avoid the common methodological trap of setting up a false dichotomy between the global and the local or national (Sassen 2006, Jasanoff & Long-Martello 2004).

I offer four ideal examples of the relationship between capabilities (extant/emerging), organizing logics (centripetal/centrifugal), and tipping points (yes/no):

1) emergent/centrifugal/tipping point: The emergent capability of derivative swaps and other forms of financial innovation facilitated the global flow of capital outside of the competence of national regulators.

2) emergent/centripetal/no tipping point: Conversely, emergent capabilities can defend an already-dominant organizing logic against change. Most military innovations would fall into this category.

3) *extant/centripetal/no tipping point*: Alternatively, extant capabilities in national or international law can maintain an organizing logic—the North Atlantic Treaty Organization’s (NATO) perpetuation of an East-West balance of power between nation-states, for example.

4) *extant/centrifugal/tipping point*: Finally, extant capabilities can ‘jump-tracks’ to be used for purposes for which they were not intended. This is the case with the proposed Trans-Pacific Partnership (TPP), which aims to work through national legislation to weaken national jurisdiction over global capital, and increase the efficiency and stability of the global trade.

The following two sections examine two *global* capabilities (i.e. for knowing and governing global problems) that are critical to REDD+: 1) the extant public capabilities of governments to make global *law* in the UNFCCC and 2) the private emergent capabilities of conservation groups and carbon market pioneers to *calculate* carbon savings from reducing deforestation.

III.1. Extant Capabilities for Global Law-making: The UNFCCC and REDD+

III.1.1. A Problem of Missing Global Teeth

The rediscovery of Roman law in 11th-Century-Italy set the groundwork for civil law and secular authority across Europe. According to the geographer and political theorist Stuart Elden (2013), Roman law “produced a fundamental shift in the way the relation between power, people, and place was understood.” While common law accumulates from the

bottom-up through tradition and experience, Roman law works its way from the top-down without regard for culture or context. In Europe, Roman Law “was oriented to overriding localized interests without necessarily promoting universal claims” (Sassen 2006).

Similarly, international law aims to fashion a common set of rules for all nations, irrespective of their history, present condition, or future prospects. This is, of course, an ideal, compromised in the principle of ‘common but differentiated responsibility’, which was established to facilitate Parties’ agreement to the UNFCCC and other environmental conventions. Such qualifications belie the limits of international consensus and therefore the reach and effectiveness of international law.

Much like nations today legitimize their actions by invoking invoke international law, medieval monarchs used Roman law to authorize their actions outside the Church and above feudal lords. There is, however, a crucial difference. While monarchs secured secular authority by joining Roman law to royal justice (Sassen 2006), the global era lacks an equivalent power of justice to enforce and authorize international law over non-compliance nations.

This is the classic problem of global governance: it lacks teeth. Contra realist scholars, the weak enforcement of global governance does not mean it is irrelevant. As institutionalist scholars have argued (e.g. Chayes and Chayes 1998), the institutions of global governance have other capabilities, namely the creation and application of soft power in the form of norms and rules (Nye 2005).

Given that no world government exists that might apply coercive force over nations, as nations do over their citizens, I argue that these consensus-based guidelines

must rely on means other than hard judicial enforcement to gain authority. This is not an original insight. Rather than suggest, however, that compliance with international regulatory agreements services from a ‘New Sovereignty’ based on the interests nations have in gaining good standing in world affairs (Chayes and Chayes 1998), I argue that soft authority comes from the articulation of extant global law-making capabilities of governments (i.e. REDD+ rulemaking) with emerging expert and technical capabilities (i.e. REDD+ standards).

The perspectives are not incompatible. Both Chayes and Chayes’ ‘managerial’ view, and the legal and technical capabilities presented here, diverge from the ‘enforcement’ model. Focusing on legal and technical capabilities, however, confers several advantages:

First, it builds on institutionalist scholarship on orchestration, civil regulation, and private entrepreneurial authority to understand the relationship between international law and expertise. Civil regulation refers to self-regulation of private enterprise through consumer politics and standard-setting by NGOs to green corporate practice (Bendell 2000, Vogel 2008). Jessica Green (2014) proposes the related concept of delegated authority to explain how private actors become de facto rule makers in global governance by having private standards and other forms of expertise adopted by public policymakers. This also relates to Abbott et al.’s (2015) idea of orchestration, where international organizations lacking the mandate or resources to manage other actors directly ‘orchestrate’ their targets’ behavior through an intermediary with overlapping interests that does have the mandate or resources. (Chapters 3 and 5 elaborate on civil regulation, and orchestration/private entrepreneurial authority, respectively.)

Second, it has the advantage of defining the analysis through capabilities and their logical organization rather than actors. This helps circumvent the problem of “methodological nationalism” (Beck 2010), which results from a nation-centric view that renders many of the most interesting and important dynamics of globalization invisible. As the dissertation will show, it is necessary to investigate the actions and relationship of state and non-state actors at national levels to understand how the venerable forms of territory, authority, and rights are being reworked in the name of global problems.

III.1.2. The REDD+ Rulebook

In 2014 at COP 19 in Warsaw, Parties to the UNFCCC agreed to the ‘REDD+ Rulebook’. The seven decisions of the Rulebook, also known as ‘Warsaw Framework for REDD+’, represent the full suite of rules guiding how carbon reductions will be measured and results-based payments will be delivered. Five of the decisions are the outcome of nearly a decade of work on methodological guidance in the Convention’s Subsidiary Body for Scientific and Technological Advice (SBSTA), which the COP tasked with devising technical procedures for counting carbon in tropical forests. These procedures are a prerequisite for any results-based payments to developing countries, and cover technical matters such as the identification of drivers of deforestation and forest degradation and activities to address them, as well the creation of national forest monitoring systems based on remote-sensing and ground-based carbon inventories.

The agreement, *inter alia*, requires countries to have national forest monitoring systems in place before receiving results-based payments for curbing deforestation. For the sake of flexibility, it carves out an exception for “subnational monitoring and

reporting as an interim measure” to help countries get those national systems up and running. The main purpose of this methodological guidance is to create accounting systems to certify that REDD+ activities have achieved “real, measurable, and verifiable” emission reductions. This involves, among other things, estimating the deforestation and emissions from deforestation expected in a country absent intervention. These ‘reference levels’ and ‘reference emission levels’ are then measured against the actual emissions from deforestation. The difference between the two determines results-based payments to be rewarded. There are many potential ways this measurement and reporting could be done.

REDD+ has been praised as a rare point of agreement in the international climate negotiations, but Parties remain divided on how to design financial incentives to reduce deforestation. In a market, REDD+ credits could be traded as a fungible commodity alongside credits generated from the farms, energy projects, and other emission-reduction efforts measured by emissions auditors, whereas a fund would deliver direct results-based payments, outside of a market proper.

In principle, the rules are in place to deliver results-based payments for forest conservation. While these rules do not yet tie those payments to a market, negotiations for a market-mechanism are moving forward. In the meantime, the UNFCCC has encouraged developing country Parties to develop the forest monitoring systems needed to certify that payments reward real results, whether they come from a fully-fledged market or fund. In order to accommodate diverse national circumstances, Parties have agreed to pursue a ‘flexible’ approach when developing their forest monitoring systems.

Countries are often given significant latitude to interpret international environmental law “as appropriate to national circumstances”—certainly much greater discretion than regulated entities typically have when complying with national environmental law. This is a feature of the global law-making capability that nations have built over the latter decades of the 20th Century. The SBSTA, for example, is ostensibly the chief scientific advisory organ to the COP. This has encouraged the expectation that SBSTA can (and should) mediate between outside scientific institutions and the political institution of the COP in the same way that the National Academy of Sciences acts as a go-between for science and Congress in the U.S. (e.g. see Guston 2001 on boundary organizations; and Miller 2001b on SBSTA). The climate regime, however, is far more dynamic than national scientific and political institutions in the U.S., which have come into a stable alignment over more than a century.

As a result, many call for SBSTA to become “more scientific” and “less political”. The REDD+ rules are an example. The rules, first negotiated in SBSTA, and then approved by COP, are more lax than many would like. Some worry that the rules are so open that countries will perversely be able to define the plantations that cause deforestation ‘natural forests’, and get money for it. Others are concerned that the language of the rules means that social and environmental safeguards amount to a rubber stamp, and afford no meaningful protections to biodiversity or local communities.

These are legitimate concerns, but they do not mean that making SBSTA more scientific will make it more effective or that reforms of this kind are even possible within the international system. This is because in a highly divisive and dynamic regime, SBSTA performs ‘hybrid management’ (Miller 2001a). Where most every issue is hotly

contested, there must be some means to decide which issues are amenable scientific closure and which require political negotiation, if collective decisions are to be reached. In the UNFCCC, SBSTA is it.

Therefore, the model we use to make sense of capabilities for making laws and making calculations in the climate regime cannot be the same model we use to understand science and decision-making in national settings. This is due to the extreme fracturing of values, interests, identities, beliefs, and so forth that characterizes global environmental politics. This does not mean that it is deficient or disordered, exactly, so much as global governance is able to do certain things, and not others, that we take for granted in the modern nation-state.

Most importantly, the borders between what gets treated as science and what politics are very porous in bodies like SBSTA. To get find purchase on how global calculative capabilities relate to global law-making capabilities, I ask two sets of questions.

The first investigates the rudimentary accounting frameworks or *proto-capabilities*, private actors proposed for private and public rulemaking. Here I focus on frameworks and proposals for forest carbon accounting. These proto-capabilities are ‘proto’ because they are only partially worked out. They may elaborate a logic with rigor but have not been adopted into practice. Proto-capabilities are the first stage of emergence, are often the product of individuals working in well-networked organizations, and exist somewhere between what Jasanoff (2015) describes as the origin and embedding of a socio-technical imaginary.

Of proto-capabilities, the remainder of this chapter asks: Where does the environmental knowledge that motivates or justifies global laws come from? How does it become authoritative in the negotiations? In particular, what kind of knowledge do non-state actors outside the formal climate regime produce to influence law-making inside the regime? What values, interests, and objectives does this knowledge embody? More deeply, what constitution/organizing logic for what kind of global governance?" I pick up these questions in the next section.

Chapter 3 takes up second, related set of questions of capabilities that have been embedded in regulations, practices, or institutions, be they private or public. Chapter 3 asks, "Where does the knowledge to refine and implement global laws inside the nation-state come from? How does it become authoritative outside of the negotiations? Are the non-state actors providing this knowledge the same as the ones who provide knowledge to motivate or justify global environmental laws? What are their values, interests, objectives, and organizing logic/constitutional implications?"

III.2. Emergent Technical Capabilities: Three Ways to Calculate a Carbon Credit

The following cases trace the history of three proposals for measuring and reporting avoided deforestation from its initial appearance in the Kyoto negotiations in the mid-1990s to the post-Kyoto negotiations today. Each of these proposals—project, national, and nested—represents an emerging calculative capability of non-state actors, devised to steer global rulemaking for REDD+. Each proposal played a prominent role in the international climate negotiations, appearing in submissions to the UNFCCC from either Parties or observers to the Convention.

III.2.1. The Rise and Fall of Deforestation in the Clean Development Mechanism: The Local Project Scale

Emissions assessors visit many kinds of carbon offset projects for the Kyoto Protocol's Clean Development Mechanism (CDM), ranging from hydroelectric power plants to waste incineration plants to facilities that flare ozone-destroying gases, yet very rarely do they visit forest projects. Of the 7535 projects registered with the CDM in mid-2014, only 55 dealt with forests (Figure 2).¹² None addressed deforestation, which Parties made ineligible for carbon credits under the Marrakesh Accord of 2001.

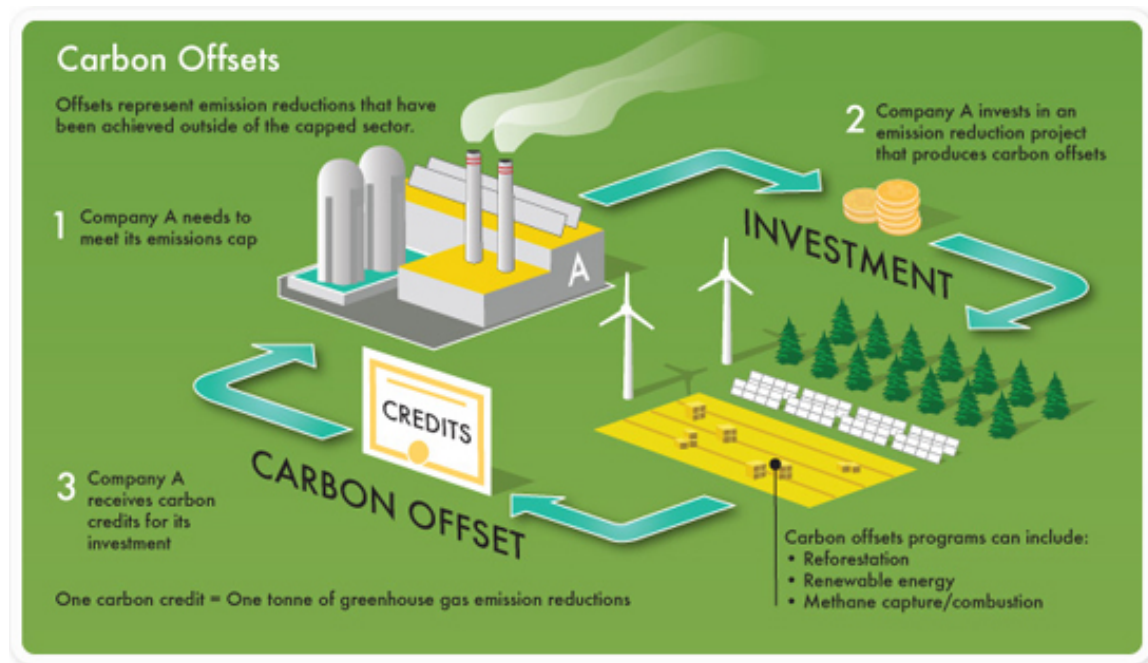


Figure 2. Carbon Offset Investment Cycle.

During the negotiations of the Kyoto Protocol in the mid-1990s, however, deforestation was widely seen as an important emissions source that should be covered by carbon trading. At that time, forest loss was already recognized as a major contributor

¹² CDM Project Search, <http://cdm.unfccc.int/Projects/projsearch.html>, accessed 7/15/14)

to global warming, accounting for 15-17% of all anthropogenic carbon emissions—or an amount equal to the entire transportation sector.¹³

One of the reasons why there are so few such projects in the CDM is the methodological difficulties for measuring, reporting, and verifying forest carbon credits (Marechal & Hecq 2006). These methodologies are more complicated and require more expertise to administer than those for other kinds of projects because of technical uncertainties unique to forestry. Unlike the carbon prevented from entering the atmosphere by building a wind power plant instead of a coal plant, carbon stored in trees could be suddenly reversed at the whim of loggers or forest fire. Therefore uncertainties exist over the *permanence* of forest carbon credits. Further uncertainties also exist about *additionality* and *displacement*. Additionality is the counter-factual requirement that the project brings benefits that would not occur under businesses as usual. Displacement, also called leakage, refers to the possibility that even if a project were to provide additional benefits by alleviating deforestation in one site, total emissions might remain unchanged because deforestation would simply shift elsewhere to meet the demand for subsistence agriculture or commodities like timber, cattle, or soy.

Taking measures to avoid deforestation fit well within the ‘comprehensive approach’ introduced by the United States into the Intergovernmental Panel on Climate Change (IPCC) in the late 1980s, which called for accounting guidelines for the sources and sinks of all anthropogenic greenhouse gases relevant global climate system, equated through the standardized metric of ‘global warming potential’. The idea for

¹³ The Fifth Assessment Report of the IPCC (2014) had revised the estimate for carbon emissions from forest loss to 12 percent of of global emissions, largely because of growing emissions from fossil fuels (<http://www.ipcc.ch/>).

comprehensive emissions accounting was at first controversial because it, in principle, called for all greenhouse gas emissions to be covered under a single global policy. Nevertheless, the notion soon became an unquestioned part of the dominant global environmental imaginary with the 1992 signing of the UN Framework Convention on Climate Change (UNFCCC) (Bodansky 1995, Stewart & Wiener 1992).

Once enshrined in UNFCCC, the practicalities of managing all emissions sources under a single treaty proved challenging. While the Kyoto Protocol aspired to include all forest carbon sources and sinks, the actual wording of the agreement remained vague, leading to a dispute in the Marrakesh negotiations over what parts of the carbon cycle should be included, and how. The debate largely centered on the interpretation of the scientific uncertainty and political implications of a Special Report by the Intergovernmental Panel on Climate Change (IPCC) on Land Use, Land Use Change, and Forestry (LULUCF) commissioned by the SBSTA to inform rule-making for the CDM (Fogel 2005).

The United States, Canada and Europe continued to back the comprehensive inclusion of all forest sources and sinks, on the basis of cost-savings, environmental effectiveness, and sustainable development in the Global South. An informal coalition of Latin American countries concurred. On the other side, Brazil and Peru, along with most of the G77 and China, argued against the idea for a host of reasons. Some saw the measure as a way for industrialized countries to dodge their responsibility to reduce fossil fuel emissions at home. Others feared so-called 'Kyoto lands' infringing on national sovereignty, and dislocating communities with commercial plantations (Boyd et al.

2004). Often these arguments joined concerns about technical and scientific uncertainty related to permanence, additionality, and displacement of emissions from forest projects.

In the end, Parties settled their differences in setting the rules for Kyoto's first commitment period from 2008-2012 by allowing limited credits from carbon stored in newly planted forests under the categories afforestation¹⁴ and reforestation.¹⁵ But Parties removed avoided deforestation altogether, at just the time when forest loss surged in Brazil, Indonesia, and other rainforest countries. The expulsion of avoided deforestation projects from the CDM was a disappointment to many who had heralded a global carbon market as an unprecedented opportunity to fund local conservation projects. The mid-1990s had seen the spread of a new breed of market-based approaches to conservation, where large conservation organizations, reversing their traditionally anti-business stance, entered partnerships with businesses and governments in anticipation that carbon markets would become a new and massive pool of finance to flow from the Global North to protect forests, forest communities, biodiversity and the global climate all in one go. These partnerships, already well underway when countries made deforestation projects ineligible under the CDM, sought new ways of linking finance to conservation, and doing so over much larger areas, more cost-effectively, than the smaller-scale tree planting initiatives that were permitted.

¹⁴ "Afforestation is the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources" (16/CMP.1, Annex, paragraph 1(b)).

¹⁵ "Reforestation is the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989 (16/CMP.1, Annex, paragraph 1(c)).

One of the first large-scale avoided deforestation projects began in 1996, when The Nature Conservancy spearheaded an avoided deforestation project in the area around Bolivia's Noel Kempff Mercado National Park. The conservation group joined with the Bolivian Fundación Amigos de la Naturaleza (FAN) to create the Noel Kempff Mercado Climate Action Project (NKCAP) to protect 0.6 million hectares (ha) of tropical forests. With support from the Bolivian government and the sale of carbon credits to three energy companies— American Electric Power, BP America and PacifiCorp—the US\$11 million project terminated logging rights in an effort to keep 55 million metric tons of carbon dioxide out of the atmosphere over a 30 years period.¹⁶ A second exemplar of avoided deforestation projects, Scolel Té, emerged around in the same time in the Mexican state of Chiapas. In 1997, the project, led by the Mexican conservation group Ambio, started selling carbon credits to the voluntary (non-compliance) market from agroforestry activities undertaken by some 2000 campesinos, at a price of US\$4-8 per ton of carbon, or about US\$140 dollars per hectare per year (Corbera 2009, Osborne 2011, 2013).

Noel Kempff and Scolel Té have since been joined by hundreds of other avoided deforestation projects around the world. When a global compliance market for carbon credits from avoided deforestation did not materialize under the CDM or EU-ETS, these projects were forced to find buyers in the much smaller voluntary carbon market made of

¹⁶ The initial estimate for savings of 55 million metric tons of carbon dioxide from the Noel Kempff project were later revised downwards by nearly 90% to 5.8 million metric tons and become the subject of major controversy over the environmental integrity of forest carbon offsets (see Greenpeace report, <http://www.greenpeace.org/usa/en/news-and-blogs/news/carbon-scam/>). In addition to carbon storage, TNC claims the project provides benefits by protecting biodiversity, preventing soil erosion and agricultural runoff, providing training and employment, and securing legal status of communities as indigenous people and legal tenure to their traditional lands (<http://www.nature.org/ourinitiatives/urgentissues/global-warming-climate-change/places-we-protect/noel-kempff-mercado-national-park.xml>).

the relatively few number of businesses, international organizations, and, to a lesser extent, individual consumers electing to purchase offsets on their own accord.

With no compliance market in place, project developers were free to develop their own monitoring, reporting, and verification guidelines, which tended to be less strenuous than those required for similar projects under the CDM. One review of the land use and livelihood impacts of Noel Kempff, Scolel Té, and eighteen other ‘pre-REDD+’ projects launched between 1996 and 2008 found that the verification for these projects’ emission reductions and other social and environmental impacts often “appeared to be afterthoughts” that “lacked rigor” (Caplow et al. 2011).¹⁷ In part, these loose accounting practices were due a lack of quality standards and dearth of reporting requirements like those mandated for other kinds of projects to qualify for credits under the CDM.

Although private certification systems like the Verified Carbon Standard (VCS)¹⁸ and Climate, Community, and Biodiversity Alliance Standards (CCBA) would later devise more exacting requirements for the voluntary carbon market, early avoided deforestation projects like Noel Kempff and Scolel Té lacked a clear or consistent set of practices.¹⁹

¹⁷ Capow et al. (2011) identified these twenty ‘pre-REDD+’ projects, which “include projects on avoided deforestation, avoided degradation and sustainable forest management, but not those delivering carbon credits solely through afforestation/reforestation”, according to four criteria: “(a) was launched after UNFCCC COP-1 but before COP-13; (b) is located in a developing (non-Annex I) country; (c) aims primarily to reduce deforestation and forest degradation; (d) has estimated its net impact on greenhouse gas (GHG) emissions.”

¹⁸ The standard-setting body was named the Voluntary Carbon Standard when it was created in 2005 but changed its name to the Verified Carbon Standard in 2011, <http://www.v-c-s.org/who-we-are>, accessed 7 August 2014.

¹⁹ Scolel Té adopted an early standard for certifying carbon credits called Plan Vivo, although the project implementation of this standard (e.g. Capow et al. 2011) as well as its requirements are considered to be insufficiently rigorous for certifying carbon credits

Despite the setback posed by the dashed hopes for a global carbon market, conservationists and their partners in businesses and government have sought to re-introduce avoided deforestation into a post-2012 Kyoto agreement. In pressing their case for market environmentalism in the UNFCCC, these groups have put forward increasingly sophisticated scientific, technical, and political programs for how forests and climate should be known and governed, and, in the process, articulated new rationalities for global governance.

III.2.2. Avoiding Deforestation with Compensated Reduction: The Jurisdictional Scale

A groundbreaking moment for global climate and forest policy came in 2005 when a small group of American and Brazilian scientists published an alternative scheme to address the uncertainties reputed to have kept avoided deforestation out of the CDM. The paper, published in the journal *Climatic Change* under the title “Tropical deforestation and the Kyoto Protocol”, proposed to account for deforestation at the national-level instead of the project-level as in the CDM.

Heading the team was Márcio Santilli, a researcher at the Amazon Institute for Environmental Research (IPAM), indigenous-rights activist, and the second youngest Congressman ever elected in Brazil. To these laurels Santilli would add Time Magazine’s 2009 Hero of the Environment for his novel proposal to reward tropical countries for forest protection. During the early 2000’s Brazil’s deforestation rate plummeted after the country passed new land-use legislation, strengthened enforcement of existing legislation,

(personal communication from a representative of a carbon market consultancy, Governors’ Climate and Forest Task Force (GCF) Annual Meeting in Chiapas, Mexico, September, 2012.

and recognized indigenous rights to large expanses of the Amazon rainforest. Complementing Brazil's unexpected policy success, advancements in satellite remote-sensing technology promised to make it easier for scientists to monitor vast areas of forest more cheaply, accurately, and quickly than ever before.

Santilli figured that, with adequate international funding and robust forest monitoring, these results could be maintained in Brazil and replicated in other developing countries. International donors were skeptical of the viability of national-level reforms, citing a litany of past failures amid corruption, poor planning, bureaucratic inefficiencies and general challenges confronting high-level development assistance everywhere. Santilli's proposal nevertheless found favor in Brazil's sympathetic environment minister—a rarity in a country long intent on developing its forested interior—and with the Norwegian Agency for Development Cooperation (NORAD). The two countries agreed to establish the Norwegian Rainforest Fund to pilot results-based payments for bringing down the deforestation rate in Brazil.

At this point, the proposal had not entered the climate negotiations. Santilli's team, though, refined the idea into the 2005 paper in *Climatic Change*. The nation, not the project, they argued, was the right scale to address the global problems of deforestation and climate change. Under this scheme, national-level deforestation measured across a large spatial area would resolve the scientific and technical uncertainties of the permanence, additionality and, especially, displacement that kept site-specific projects out of the CDM (Table 2). The calculation of the carbon saved by reducing deforestation and the subsequent payments based on those calculations would likewise be determined across a country's forests as a whole. In principle, these payments could be come from a

carbon market or dedicated fund. To set apart this national-level idea from the earlier avoided deforestation projects like Noel Kempff and Scolel Té, the authors devised the term “‘*compensated reduction*’”, as a means of both mitigating climate change and facilitating significant developing country participation in the Kyoto Protocol framework.”

REDD dimensions/ approach	National	Sub-national
Baselines	Deforestation baselines based on historic trends—selection of base year period critical—Viability potentially undermined by lack of data and capacities	Deforestation baselines will contain uncertainties associated with the models used
Additionality and leakage	Additionality difficult to determine in forest transition countries Leakage better controlled, but international leakage may remain if a majority of countries do not engage in REDD	Additionality assessed following similar rules to the CDM Leakage to be considered in the same way as for other mitigation projects
Monitoring and permanence	Effective monitoring subject to data availability, funding, and the existence of standardized evaluation methods across countries	Monitoring techniques need to be defined and standardized, and it may be easier to account for permanence due to well-defined project boundaries and carbon pools
Equity	Distribution eschewed in favour of skilled countries	Uneven distribution of REDD activities is also possible but increases the chances of participation by small countries with low deforestation rates

Table 2. Comparison of National Sub-national REDD Approaches (Corbera et al. 2010)

This shift in the scale from local projects to the nation provided a political solution for developing countries worried that an influx of forest projects would erode their

sovereignty by locking away large stretches of their territories in ‘Kyoto lands’.²⁰ The shift from the local to the national scale alleviated these worries by, in effect, drawing a line of accountability above which, in the supranational space, developed and developing countries could re-engage in stalled negotiations over deforestation by discussing national-level compensations. This appealed both to developed countries concerned over the environmental integrity of local emission reductions by accounting for net deforestation over the entirety of a national jurisdiction, and to developing countries that saw compensation for non-binding emissions reductions as a means to engage in climate change mitigation while preserving their sovereignty.

In the sub-national space below that line, the concept also appealed to developing countries because it left interventions for achieving cuts entirely in their discretion. The original proposal in *Climatic Change* scarcely mentions sub-national projects that were so divisive in the CDM. The paper instead argues that large-scale reductions in deforestation will come from the sweeping reforms that only governments can enact, with projects playing a bit part amid a broader array of mechanisms:

Tropical country governments can reduce deforestation through adequate funding of programs designed to enforce environmental legislation, support for economic alternatives to extensive forest clearing (including carbon crediting), and building institutional capacity in remote forest regions (Santilli et al. 2005).

²⁰ Local projects are not to be confused with the idea of global projects presented in Chapter 1. Although I do not pursue it, it may be fruitful to explicitly theorize the two together.

National-level reforms, combined with adequate finance, promised a fresh approach to piecemeal conservation. This level of action, it was thought, was needed to grapple with the ultimate drivers of deforestation at-scale. The majority of country submissions to the UNFCCC reflected strong support for a national focus, not simply to preserve their sovereignty, but also because it ostensibly struck the drivers of deforestation at their root (Angelsen et al. 2012). Small-scale projects inevitably focused on proximate causes of forest loss attributed to local landholders or swidden farmers. But only countries, it was argued, could deliver truly transformative changes by addressing the ultimate drivers of deforestation both within and beyond the forest sector proper. If national forestry reform in the 1980s and 1990s had fallen short of this goal in the past, it was only because it was ill-planned and poorly funded.²¹

A new model of national compensation, however, would instigate durable, structural changes to reduce deforestation through various Policies and Measures (PAMs), like revising economic and regulatory frameworks, removing perverse agricultural subsidies, and re-zoning timber concessions and other forms of land use (Angelsen & McNeill 2012, Corbera 2009, Agrawal et al. 2011).

We propose the novel concept of “compensated reduction”, whereby countries that elect to reduce national level deforestation to below a previously determined historical level would receive post facto compensation, and commit to stabilize or further reduce deforestation in the future (Santilli et al. 2005).

²¹ UN proposals for Tropical Forest Action Plan of the 1980s, for example, had come to be seen as a failure to steer national forest policy towards conservation (e.g. Angelsen and McNeill 2012, Goldman 2005)

Shortly after the publication of Santilli’s paper in *Climatic Change*, the Coalition of Rainforest Nations (CfRN), led by Papua New Guinea and Costa Rica, picked up the idea in a submission to COP11 in Montreal on ‘reducing emissions from deforestation in developing countries’ (RED). The idea quickly gained traction and restored the attention to deforestation that had been lost in the CDM. RED took another major step forward in 2007 when COP15 adopted the Bali Action Plan (Decision 1/CP.13), launching the post-2012 long-term agenda for cooperative action for climate change mitigation. At the behest of developing countries whose low deforestation rates would have precluded their involvement, the long-term agenda recognized not only deforestation but also forest degradation and “conservation, sustainable management of forests and enhancement of carbon stocks”, leading to the acronym REDD+ (Figure 3).

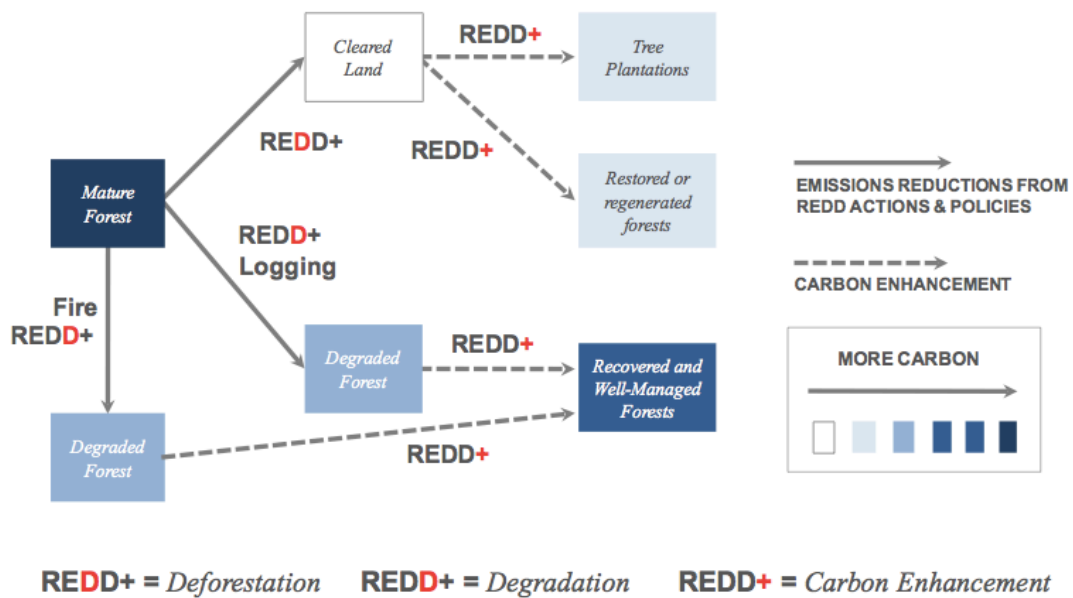


Figure 3. Types of REDD+ Emissions Reductions and Carbon Enhancement (EPRI 2012)

Around the same time, a spate of highly-influential studies calculated opportunity costs to argue for the cost-effectiveness for reducing emissions from deforestation. Lord Nicholas Stern, author of the UK-commissioned Stern Report on *The Economics of Climate Change* (2006), promoted the idea that “Curbing deforestation is a highly cost-effective way of reducing greenhouse gas emissions and has the potential to offer significant reductions fairly quickly.” Similar studies touting the cost-effectiveness of REDD+ added credibility to the proposal (see for example, Busch et al. 2009; Eliasch 2008; European Commission 2008; Gullison et al. 2007; Kindermann et al. 2006, 2008; Meridian Institute 2009).

A few years after the small group of researchers in Brazil and the US aired their idea for national-level compensated reductions for avoided deforestation in *Climatic Change*, the proposal had transformed the negotiations. By introducing a clear, plausible governing rationality their notion of ‘compensated reduction’ set REDD+ in motion, stimulating global discussions on how results-based payments for carbon could be made and certified at the national-level. The proposals, however, left much unsaid and allowed alternative programs centered not on countries but on projects to take the stage once again.

III.2.3. The Return of Forest Projects: Nesting Projects in the Jurisdictional Scale

In 2005, COP15 invited Parties and accredited observers to submit their views on RED.²² In most of the twelve observer submissions that followed, large conservation organizations like the Environmental Defense Fund, Conservation International, and The

²² For the mandate see FCCC/CP/2005/5, paragraph 81

Nature Conservancy, and their collaborators in universities and the private sector, praised the proposal as a second and perhaps last chance to save dwindling rainforests through a global carbon market. IPAM's Márcio Santilli and Paulo Moutinho reiterated their recently published case in *Climatic Change*, writing that national-level compensations for reducing deforestation “would not be a mechanism, like the CDM, linked to the execution of specific projects, but rather a commitment between countries.”²³ Several groups, including the leading carbon market champion, the Environmental Defense Fund, endorsed their idea as at long last a credible way for countries to trade offsets from avoided deforestation in the global carbon market.²⁴ Reflecting on the fervor for the idea at the time, a policy expert from Environmental Defense later remarked that:

The publication of ‘Tropical deforestation and the Kyoto Protocol’ was a very important development because it created a scientific space—and a policy space—where you could actually talk about reducing emissions from deforestation and put the leakage [displacement] question to one side. It didn't completely resolve the leakage question but it greatly tempered it.²⁵

Other groups supported the general idea, while using the discussion to highlight the avoided deforestation projects that had begun a decade earlier in anticipation of a carbon

²³ 2006 IPAM submission to SBSTA, see

http://unfccc.int/parties_observers/ngo/submissions/items/3689.php, accessed 7/16/14.

²⁴ SMSN/NGO/2006/009

²⁵ ‘Are we on the brink of saving rainforests?’, Mongabay, accessed 8/1/14:

<http://news.mongabay.com/2009/0722-redd.html>

market under the CDM. In separate submissions both The Nature Conservancy²⁶ and Fundación Amigos de la Naturaleza (FAN)²⁷ said the “Noel Kempff Climate Action Project (NKCAP) in Bolivia demonstrates that activities to reduce deforestation can provide real, verifiable emissions reductions,” adding that “the monitoring methods used by the NKCAP could also be applied to measure emissions reductions from sector-wide approaches to reduce national deforestation rates.” Conservation International went a step further in its submission, highlighting the Mantadia-Zahamena Corridor Restoration and Protection Project in Madagascar as an example of the kind of local projects that should be re-introduced into the CDM, whether or not Parties also went forward with a national-level approach.²⁸

A number of governments too voiced support for the general idea but doubted their prospects for benefiting from national-level RED, in large part because they lacked the sophisticated expertise and infrastructure of countries like Brazil to monitor and manage their forests (Global Canopy Foundation 2008). UNFCCC submissions from Central African Forest Commission (COMIFAC), as well as Chile, Malaysia, and Colombia, recalled the CDM-style projects as an alternative to top-down, national strategies. Yet, despite renewed attention from both conservationists and countries, CDM-style forest projects languished for two years in the negotiations because there was no clear way to count small-scale emission reductions in a national framework.

An accounting innovation first spelled out by a forest engineer in Costa Rica would change that. Lucio Pedroni, of the Tropical Agricultural Research and Higher Education

²⁶ SMSN/NGO/2006/007

²⁷ SMSN/NGO/2006/008

²⁸ SMSN/NGO/2006/012

Center (CATIE), developed a means to reconcile national and sub-national accounting. The idea was to calculate avoided deforestation and award credits to both levels simultaneously. This would resolve the leakage problem by requiring that the sum total of all compensation be based on net emissions saved across an entire country, but then allowing that sum to be distributed to individual projects in line with their local contributions. CATIE and the German Emissions Trading Association (BVEK) formally submitted the proposal to the UNFCCC in early 2007.²⁹

Later that year, Pedroni elaborated the proposal in a paper titled ‘Mobilizing Public and Private Resources for the Protection of Tropical Rainforests’ with Charlotte Streck, a former Senior Counsel to the World Bank who founded the carbon market consultancy Climate Focus in the Netherlands in 2005 after helping to establish the World Bank’s BioCarbon Fund. Housed under the Bank’s Carbon Finance Unit, the Fund was created as a public-private partnership in 2004 to mobilize investments for CDM-style projects that sequester carbon in forests and agro-ecosystems.

In a 2006 article in *International Affairs*, Streck (2006) had already reacted against Santilli’s idea for national-level compensated reductions “as a pure government-to-government mechanism. While the submission of Environmental Defense appears to contemplate private sector participation, IPAM’s submission considers private participation as a risk rather than an opportunity”, instead encouraging Parties to authorize private entities to participate in the market. Within months their alternative to national-level REDD+ entered the negotiations when Paraguay submitted it almost verbatim in a submission to the Bali COP, on behalf of Honduras, Mexico, Panama and

²⁹ SMSN/NGO/2007/002, responding to FCCC/SBSTA/2006/L.25.

Peru, with support from Ecuador and Chile.³⁰ The proposal gives leeway to countries to adopt a national approach if they so choose but offers an alternative:

“nested approach”, whereby project activities can start independently and immediately while national level emission reduction programs are progressively implemented by a larger number of countries. Developing countries would be able to decide on their initial level of participation in this mechanism.

A national-only approach, they argued, was deeply problematic. In a section on the ‘Problems of Relying on National Baselines Only’, they explained that:

Many UNFCCC negotiators appear to favor a REDD mechanism exclusively built on the adoption of national baselines...[However] Such a system would only be successful in those countries that are able to successfully implement effective policy, legal and institutional reforms nation wide, including appropriate social and economic safeguards.

These countries, they suggested, were few and the time, political cost, and risk of failure required for the necessary legal, political, and institutional reforms far exceeded any reasonable expectation. Under such constraints, the feasibility for REDD+ looked bleak:

³⁰ FCCC/SBSTA/2007/MISC.14

A consequence of such a mechanism is that countries with little capacity to implement forest protection measures, and thus most in need for international support, would not be able to participate in a system which rewards the nationwide lowering of deforestation rates only.

Their solution was a ‘nested approach’ to carbon accounting and finance, based on a double baseline-and-credit system (Figure 4). Under this system, the central government would see to the international arrangements and reporting requirements needed to trade credits in avoided deforestation, but would also have the option to “allocate these credits to private entities and authorize them to trade the issued credits.” Below the national level, the central government would be entrusted with the “authorization of private or public entities to implement REDD activities at the project level, regardless if the host country has a negotiated a national emission reference level” and, more importantly, “Credits for these project activities would be issued *directly to the project entities* (emphasis added) through an international and independent mechanism.”³¹

³¹ The full proposal (Pedroni & Streck 2007) calls for:

“A country-wide scheme based on the following principles:

- i. Internationally negotiated and agreed reference level of deforestation, which rewards the lowering of national levels of deforestation.
- ii. The creation of fungible carbon credits which can be used to comply with GHG targets.
- iii. Countries may allocate these credits to private entities and authorize them to trade the issued credits.
- iv. A mechanism ensuring permanence of the achieved emission reduction.

A project based mechanism for REDD based on the following principles:

- i. The authorization of private or public entities to implement REDD activities at the project level, regardless if the host country has a negotiated a national emission reference level.
- ii. Credits for these project activities would be issued directly to the project entities through an international and independent mechanism, regardless of national

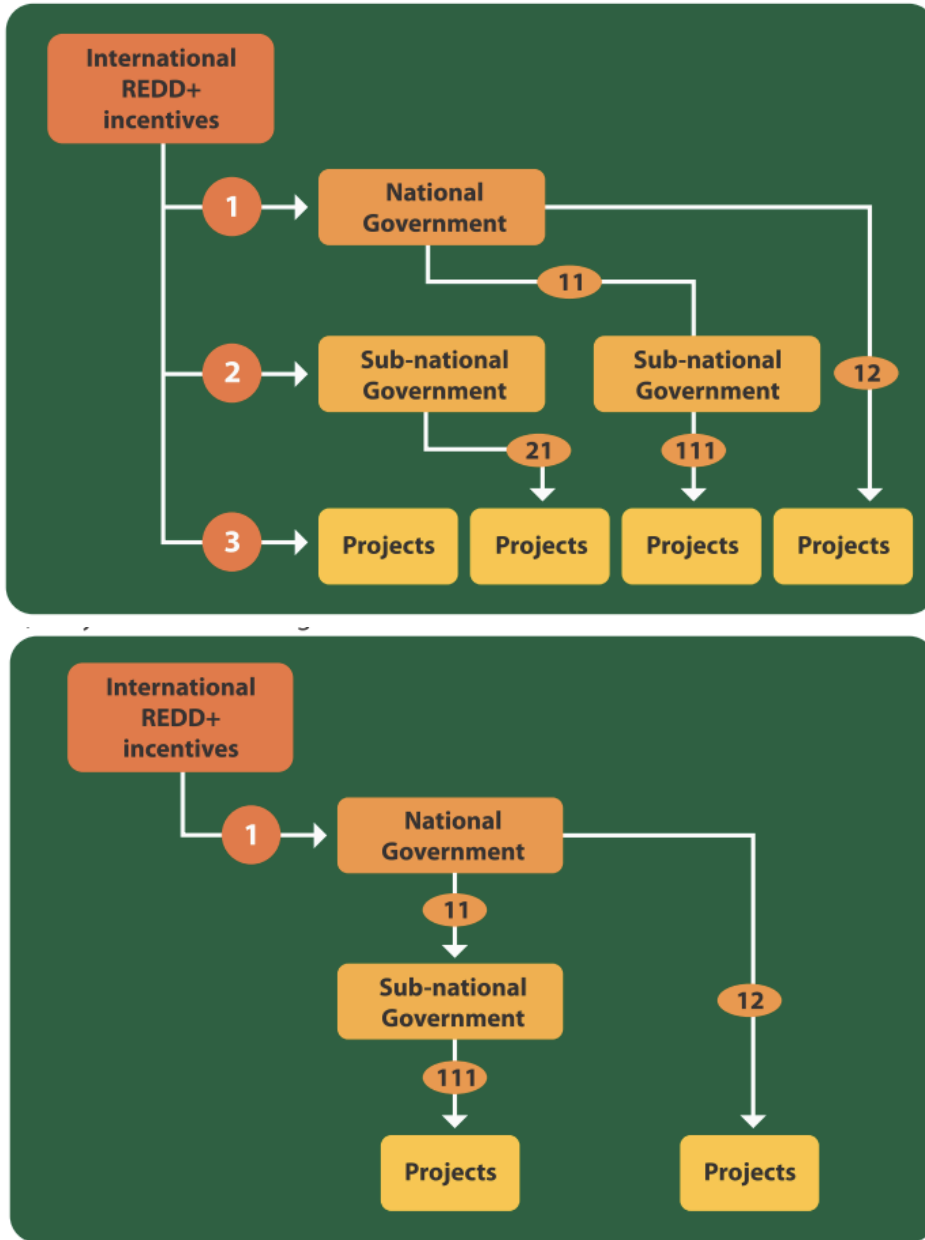


Figure 4. Options for Capturing and Distributing International REDD+
 (Top: National and Subnational Crediting; Bottom: Only National Crediting)

emissions from deforestation (CDM type of mechanism).

iii. Mechanisms addressing leakage and ensuring permanence of the achieved emission reduction.

iv. The creation of fungible carbon credits which can be used to comply with GHG targets.”

In effect, the nested approach reinterpreted the national-level approach along what Pedroni described as the ‘natural dichotomy’ between the government and the private sector. In the supranational space, countries were to bestow the political legitimacy and bureaucratic underpinnings of a global market, while at home creating the monitoring systems and legal and technical framework to let the private sector do what it does best, namely securing the finance and expertise needed to reduce deforestation on the ground.

The Nature Conservancy, Environmental Defense Fund, and Conservation International, joined by a growing number of foundations and private sector partners, and interested governments, soon began advocating for the nested approach as the route to a global market and the scaled-up finance it could provide.³² The growing network was highly productive, penning `dozens of jointly-authored papers, holding regular seminars and technical trainings, and stepping into advisory roles on REDD+ inside and outside of the UNFCCC. For his part in the fervent, Pedroni, dubbed by his associates as the “godfather of nesting”, became the co-founder and CEO of Carbon Decisions International in 2009, a Costa Rica-based consultancy working with Peru’s Environment Ministry.

Pedroni and Streck, who herself had co-founded the D.C.-based think tank Avoided Deforestation Partners in 2007, went on to serve on the Verified Carbon Standard’s (VCS) REDD Expert Group. The standard-setting body—whose founders and board include representatives from the International Emissions Trading Association (IETA),

³² Groups promoting the nested approach include international development agencies like USAID, Winrock International, Netherlands Development Organization; consultancies and ngos like Climate Focus, The Center for People and Forests, Carbon Decisions Internatinoal; law firms like Baker & McKenzie; trade organizations and industry-ngo consortia like International Emissions Trading Association (IETA) and Forest Trends; and many others.

World Business Council for Sustainable Development, and Environmental Defense Fund—employs such “expert committees to ensure existing and new requirements reflect state-of-the art knowledge and global best practice”, conferring it with an “unmatched ability to innovate and expand the international carbon market.”³³

The possibility to nest projects and directly accrue compliance payments to private entities helped spur the nascent voluntary market in forest carbon. While advocating for nested REDD+ in and outside of the negotiations, The Nature Conservancy’s Noel Kempff project in Bolivia and Ambio’s Scolel Té in Mexico became exemplars of avoided deforestation efforts and examples of how the conservation groups, in partnership the governments and the private sector, could deliver real and measurable emission reductions, certified through rigorous standards for monitoring, reporting, and verification. Rigor, though, was just what these early voluntary standards were missing. Some NGOs suggested avoided deforestation projects could adapt the CDM’s forestry standards, but these were seen as too cumbersome and onerous, and ill-suited for integration with national-level accounting systems. Into this REDD+ standards gap stepped the VCS.

In 2013, VCS went on to develop and pilot a new standard for Jurisdictional and Nested REDD+ with funding from Norwegian Agency for Development Cooperation (NORAD), in Chile, Vietnam, Costa Rica, Chile, and a number of other countries.³⁴ By then, the group had already been actively working to expand the market for REDD+ for several years, issuing its first Voluntary Carbon Units (VCUs) for avoided deforestation

³³ Verified Carbon Standard website, <http://www.v-c-s.org/who-we-are>, accessed 7 August 2014.

³⁴ See <http://www.v-c-s.org/jnr-pilot-programs>, accessed 7 August 2014.

to the Kasigau Corridor REDD Project in eastern Kenya in 2011³⁵. The Kasigau initiative, led by the project development and management company Wildlife Works', has a 30-year plan to prevent the release the equivalent of 1 million tons of carbon emissions annually across 200,000 ha of dryland forest in a wildlife migration corridor between Tsavo East and Tsavo West National Parks by creating jobs among the 100,000 people who live there as "a viable alternative for people that have previously had to destroy their environment just to survive."³⁶ A number of other initiatives drew complicated schemes to finance alternatives to deforestation, for example, by creating alternatives to state-planned palm oil plantations, like InfiniteEARTH's 91,215 ha Rimba Riya Biodiversity Reserve³⁷ in Indonesia, or compensating local communities to pursue substitutes for cropland conversion and settlement, like Terra Global Capital's 63,841 ha Oddar Meanchey³⁸ project in Cambodia (areas roughly half that of a large metropolitan area like London, Los Angeles, or Phoenix). Many more projects were soon generating

³⁵ VCS database,

<https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=562&lat=-3%2E5915&lon=38%2E79761&bp=1> and

<https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=612&lat=-3%2E944264&lon=38%2E773234&bp=1>, accessed 7 August 2014.

³⁶ Wildlife Works' website, <http://www.wildlifeworks.com/company/aboutus.php>, accessed 7 August 2014.

³⁷ Forest Carbon Portal, <http://www.forestcarbonportal.com/project/rimba-roya-infinite-forest-reserve>, accessed 7 August 2014. Also see Code REDD <file://localhost/http://www.coderedd.org:redd-project:infiniteearth-rimba-roya-indonesia:-.U-Pm24BdWiQ>, accessed 7 August 2014. And VCS database,

<https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=674&lat=-2.78051067417254&lon=112.170133504944&bp=1>, accessed 7 August 2014.

³⁸ Forest Carbon Portal <file://localhost/>

<http://www.forestcarbonportal.com:project:oddar-meanchey-forest-carbon-project>,

accessed 7 August 2014. Also see Code REDD,

<http://www.coderedd.org/news/cambodia-verifies-the-worlds-first-vcs-triple-gold-ccb-avoided-deforestation-project/>, accessed 7 August 2014. Also see VCS database,

<https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=904&lat=14.2461233241779&lon=103.724792743118&bp=1>, accessed 7 August 2014.

additional REDD VCU's for the voluntary market, often in cooperation (but little direct funding) with new national REDD+ institutions and the several billions of dollars of bilateral and multilateral 'fast start finance' dedicated get countries 'REDD+ Ready', most notably the World Bank's Forest Carbon Partnership Facility, UN-REDD Programme, Congo Basin Forest Fund, and Norwegian International Climate and Forest Initiative.

Altogether, by 2014, 338 REDD+ projects covering over 4 million hectares (covering an average of 11,000 of forested ha each, a fraction of mega-projects like the Kasigau Corridor REDD Project) were being implemented in 52 countries, many with the support of private investors hoping to sell credits in the voluntary market or future compliance market under the certification of VCS and other standard-setting organizations.³⁹ The surge in projects marked a shift in the vision for REDD+ away from a national focus. As these projects proliferated in anticipation of a REDD+ agreement, their case was bolstered by the possibility for an agreement in the UNFCCC that would recognize nesting and open the possibility of direct carbon payments independent of government mediation, and justified by worries over a looming 'finance gap' that governments would not fill.⁴⁰

The voluntary market, however, remained short of the tens of billions of dollars a post-Kyoto compliance market might deliver, having transacted just \$70 million in 8.6

³⁹ CIFOR Global Database of REDD+ and Other Forest Carbon Projects: <http://www.forestclimatechange.org/redd-map/>, accessed 8/21/14. Also see State of the Forest Carbon Market 2013 Report (Forest Trends 2014).

⁴⁰ For instance, the US\$100 billion per year by 2020 called for in the 2009 Copenhagen Accord "to address the needs of developing countries" was assumed to "come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance" (Decision 2/CP.15).

million tons of REDD+ offsets from 45 projects in 2012 to a handful of government buyers and companies like Microsoft and Disney. Conservationists, financiers, project developers and no small number of development practitioners lamented that the negotiations and emerging national REDD+ strategies retained too heavy a focus on the national level (TNC and Baker & McKenzie 2010, Thompson et al. 2011). The assumptions behind those high-level discussions, however, and swell of activity outside of government, had changed dramatically (Angelsen & McNeill 2012). The top-down measures foregrounded in Santilli's 2005 proposal for nationally compensated reductions had, in a couple of years after the Bali Action Plan, been rivaled, if not overshadowed, by bottom-up initiatives driven by the private sector.

IV. Calculation, Law, and Organizing Logic

Underlying each of the three versions of REDD+ presented in the preceding section is the idea that the environment can be indirectly managed through the economy. As opposed to the direct, coercive measures of command-and-control regulation, performance-based mechanisms are based on the logic that financial incentives can induce humans to behave in a more environmentally-friendly manner. In order to achieve this goal, each proposes a distinct logic to link policy and finance. Together innovations in governance and finance are to drive the green economy.

Behind a shared economic logic, the three versions propose organizing carbon markets at different scales, drawing on deep and often unexamined assumptions about the identity of buyers and sellers, sources of finance, nature of commodities, and legal and technical infrastructure needed to allow the market to function. Thus each proposal

presents a logic for how the green economy should work, as well as a logic for defining and organizing the people and things that compose the market. To unpack how these proposals relate to questions about governance and finance in different ways, it is critical to attend to their epistemic dimensions and the particular globalisms that lay behind them, which seek to build new carbon market capabilities and to articulate those to the extant capabilities of international law, albeit in quite different ways.

Critics and supporters of REDD+ typically agree on one thing: it is a mechanism to save nature by giving it financial value through performance-based payments for forest protection. Even keen observers describe it as the biggest Payments for Environmental Services (PES) scheme the world has ever seen (Corbera 2009). This is true only on a superficial level. While monetary payments are involved in almost all versions of REDD+, these payments might be calculated and delivered on nearly any scale (local to national), to any actors (communities, private organizations, or individuals, or subnational or national governments), for a great many interventions (alternative local livelihoods, community-based conservation, national land reform, or sustainable forest management). Political tensions run across all of these dimensions of REDD+ rulemaking, yet by boiling the REDD+ discourse down to PES, that debate tends to frame the REDD+ rules in drastically oversimplified terms: “What policy choices are able to deliver the most finance for the greatest reductions in the least time?”

As a result, the standard narrative recasts earlier antagonism between national versus project-based approaches in friendly terms. The narrative goes something like this:

Carbon offset projects to prevent deforestation in the 1990s ran up against technical and political difficulties that thwarted an otherwise sound, and in fact essential, effort to harness markets for the global protection of forests and climate. An enterprising group of researchers responded by alerting the world that rapid advancements in remote sensing and global ecosystem science could sweep away the local projects' problems with a new paradigm of national carbon accounting. Technical, institutional, and financial barriers though proved too great to guarantee quick results on par with the urgency of the crisis, ushering a reconciliation of the first two proposals. This third, nested approach, combined the best features of the project and national approaches. Nesting therefore enables the flexible strategy required to deliver both incentives for short-term results and financial and expert infrastructure for long-term action.

The paragraph is mine, but policy-makers, practitioners, and researchers often talk this way, as if carbon accounting were in the first instance a technical question. By recasting the history of these technical proposals as a thesis-antithesis-synthesis, the narrative erases the interests and objectives of the individual proposals. This facilitates consensus-based law-making because it defuses opposition by giving a palatable option to all. This is typical of the win-win strategies of the green economy, and is seen in other aspects of REDD+, such as the increasingly inclusive move from RED to REDD+ or the adoption of social and environmental safeguards. The historical erasure, however, carries deeper structural implications for the relationship between global law-making and calculative capabilities that are rarely recognized. In the following section, I discuss how the

decision to calculate deforestation at a certain scale reflects underlying assumptions about causation and agency, and political participation. In the section after that, I argue that design choices about scale entail overlooked implications for the path dependency of market infrastructures.

IV.1. Constitution of Scale

‘What is the right scale for REDD?’ is the title of a 2008 brief written by Streck and colleagues at the Center for International Forestry Research (CIFOR). It poses the issue clearly:

A key question in the debate concerns the level (scale) at which accounting should be done and incentives offered for REDD activities. Should international accounting be limited to subnational (or project) activities, or to reductions at the national level, or should they occur at both levels (nested approach)?

The brief neatly frames the three approaches in terms of effectiveness, efficiency, and equity (Table 3).

REDD model	Criteria		
	Effectiveness	Efficiency	Equity and co-benefits
Subnational approach	<ul style="list-style-type: none"> + Broad short-term participation + Attractive to private funders - Domestic leakage a problem - Does not trigger the required policy changes - Weak involvement of host countries 	<ul style="list-style-type: none"> ± MRV costs lower overall but higher per CO₂ equivalent + Differentiated incentive payment possible: lowers costs 	<ul style="list-style-type: none"> + Easier participation by poor countries and those with weak governance + Can target poor domestic groups and create more opportunities for community participation
National approach	<ul style="list-style-type: none"> + Broader set of policies pursued + Captures domestic leakage + Stronger host country ownership - Unsolved issues of reference levels 	<ul style="list-style-type: none"> + Lower MRV and transaction costs per CO₂ equivalent + Low-cost (non-PES) policies available - Potential for policy and governance failure 	<ul style="list-style-type: none"> + Potentially larger overall transfers + Better alignment with national development strategies - Favours middle-income countries - Risk of high level and elite capture ('nationalisation' of carbon rights)
Nested approach	<ul style="list-style-type: none"> + Combines strengths of other two approaches + Flexibility based on national circumstances + Potential for larger overall transfers - Unsolved issues of reference levels 	<ul style="list-style-type: none"> + Both differentiated compensation pay and low-cost broad policies - High MRV costs (which requires disaggregated national data) - Challenge to harmonise between national and sub national 	<ul style="list-style-type: none"> + Increased country participation and larger transfers to poor countries + Possible to target poor groups

Table 3. Pros and Cons of Accounting for REDD+ at Subnational, National, and Nested Scales (CIFOR 2008).

Instead of coming down decisively in favor of one approach or the other, the brief echoes many other groups calling for—a flexible both/and strategy, suited to national circumstances. The case is compelling and tends to favor nesting because it “could allow a country to engage in REDD with a project or national approach, ensuring broader international participation and thereby larger overall emission reductions in the shorter term.”

Notwithstanding the slim prospects that Parties would ever revert to the project-only REDD+ they expunged from Kyoto, the conclusion is hard to contest. Countries do have unique needs and capacities. Many express concern that results-based payments accrue equitably across amongst them, not only to a few well-positioned to attract the greatest investment, as when a flood of CDM projects bypassed the smallest and poorest countries for China and India. A flexible, nested approach is proposed as a way to

dispense payments for ‘early action’ to countries, such as the COMIFAC members Africa’s Congo Basin, as they build the robust national monitoring systems that a handful of others like Brazil already possess. By giving Parties the flexibility to choose the scale at which they will deliver results-based payments, the nesting approach also promises to defuse tensions over sovereignty—one of the most contentious issues in the REDD+ negotiations (TNC and Baker & McKenzie 2011).

Very few activists, scholars, or practitioners on either side of the debate, however, have asked how the choice of scale in REDD+ is also a choice between starkly contrasting visions of good government. Perhaps Greenpeace, a group that blasted the Noel Kempff project in Bolivia as a “carbon scam”,⁴¹ comes closest when charging that the flexibility nesting proponents tout is really a “constructive ambiguity” designed to sneak CDM-style projects back into the negotiation (Greenpeace 2011). But even Greenpeace, like the groups it opposes, presents project-, nesting-, and national-level REDD+ as if they were discrete options for delivering more or less efficient, equitable, and effective outcomes. In the following section, I probe more deeply to show why the options are neither as independent nor outcome-oriented as they presume.

I begin that exploration by analyzing Márcio Santilli’s original 2005 proposal to compensate developing countries to reduce deforestation at the level of the national jurisdiction. The remaining chapters further explore these questions in regard to jurisdictional, project-based, and nested REDD+. In the following sections, I focus on jurisdictional REDD+ to highlight why a comparative account of the organizing logics,

⁴¹ Greenpeace (2009), ‘CARBON SCAM: Noel Kempff Climate Action Project and the Push for Sub-National Forest Offsets’, accessed 9 August 2014. For a response from TNC, see <http://blog.nature.org/2009/10/noel-kempff-climate-forest-greenpeace-nature-conservancy/>, accessed 9 August 2014.

capabilities, and constitutional elements of those proposals is useful for understanding why design choices matter with regard to the relationship between environmental knowledge-making and global law-making.

IV.1.1. Causation and Agency

The Environmental Defense Fund lauded Santilli's proposal for national compensated reductions as "very important development because it created a scientific space—and a policy space—where you could actually talk about reducing emissions from deforestation."⁴² The proposal is striking because it addressed the scientific *and* policy discourses simultaneously. It did so by reconfiguring climate science, ecology, and economics to re-scale, and hence re-focus, the science and policy discourse on the drivers of deforestation, the agency of nations in addressing those drivers, and the legitimate political participation for collective global action.

Early discussions on RED mentioned avoided deforestation projects like Noel Kempff and Scolel Té only as afterthoughts. Local projects were, after all, the problem national-level compensations were to remedy. Where local projects do appear in early proposals to compensate countries for avoided deforestation, they are significant not because they are thought necessary for curbing large-scale forest loss but because they are conceptualized as having the same kind of agency as national governments (and, for that matter, forest communities)—entities capable of responding to market signals for forest conservation:

⁴² 'Are we on the brink of saving rainforests?', Mongabay, accessed 8/1/14: <http://news.mongabay.com/2009/0722-redd.html>

Compensated reductions differs from previous forest protection programs and agreements in that it promises to give governments, forest communities, and private owners access to a market for forest ecosystem services, creating the economic value for standing forest long understood as essential for large scale forest conservation (Santilli et al. 2005).

That is to say, when it comes to agents and the actions they might take to reduce deforestation, governments have ontological status no different than private project developers or forest communities under the CDM: their capacity to act may differ but both are at root economic agents. The economic basis underlying the concept of national-level ‘compensated reduction’ is clear in the citation of a study published in *Science* provided in the above quote. In their 2000 study on “Economic incentives for rain forest conservation across scales,” Kremen et al. argue that “incentives at national and global scales are also essential to the success of conservation efforts, because national governments often make large-scale natural resource decisions affecting conservation”. Here, incentives are understood in monetary terms. Governments can be financially incentivized to reduce deforestation when such incentives compensate their opportunity costs, defined as “the land use that produces the highest alternative return”.

Lest it be seen as a rhetorical flourish for old, tried, and tired forest policies, this way of thinking of countries as rational economic agents has worked its way deep into the policy discourse. In a panel discussion with the heads of the World Bank and International Monetary Fund (IMF) on ‘The Economic Case for Climate Action’, the World Bank’s Vice President for Sustainable Development, Rachel Kyte, explained that a

price on carbon should be factored in as one input among many in optimizing rational national-level decisions when countries make choices...

...for how their economies are going to grow and compete and reduce the amount of emissions in the economy and improve the robustness of the economy. So every country has a sweet spot. There are difficult trade-offs. There are, upfront capital costs as well associated with some choices, but I think what we want to do this week with the ministers of finance and then beyond is to talk to every country about where we think those sweet spots are.⁴³

Although she was talking about climate policy writ large, Kyte employed the same logic that had also come to characterize forest policy when she invoked the notion of emissions “sweet spot” and implored “ministers of finance to advise their heads of state about what their ambition levels should be over the next few years”. Being more than a metaphor, this line of thought of country-as-economic-agent carries important policy implications.

The view shared the Stern Report, World Bank, and the REDD+ discourse more generally, of nation-as-economic-agent makes two presuppositions (Karsenty & Ongolo 2012). The first takes a country as a cohesive entity that can make a decision to pursue one development pathway over another based on a cost-benefit analysis inclusive of anticipated financial incentives. The ability to make such a decision implies that countries are also “calculative agencies formatted and equipped to act on the basis of a logic of

⁴³ The Economic Case for Climate Action - Webcast & Live blog:
<http://live.worldbank.org/economic-case-climate-action-webcast-live-blog>

accumulation and maximization”.⁴⁴ In regard to deforestation, this calculation requires reliable information about the carbon currently stored in its forests, the carbon that will be stored in those forests if it takes no action to stem forest loss, and the carbon that will be saved if it does. National-level accounting and advancements in satellite remote sensing and other monitoring technologies are the technical innovations promised to make these calculations credible by reducing the uncertainty of, among other things, permanence, additionality, and displacement.

The second assumes that countries will actually be able to deliver the future they choose. When it comes to reducing emissions from deforestation, this means that countries are seen as able to successfully design, implement, and enforce the policies and other measures needed to reduce deforestation. It is irrelevant whether or not countries actually can exercise such control, for the governing mentality is a utopian one: If they do not they could and, moreover, should by building the technical and institutional capacity to do so. Doing so would bring the efficiency of the market into the governance of the earth system by enticing entire countries to rationally manage their forested lands in accord with a global price for carbon. The plausibility of a governance regime based on compensated reduction offered a justification for the investments in the monitoring, reporting, verification systems (MRV), carbon accounting systems, demonstration efforts, workshops and training sessions, and other dimensions REDD-Readiness pursued by the UN-REDD Programme, World Bank Forest Carbon Partnership Facility, national REDD+ strategies, and various other international, bilateral, and domestic initiatives.

⁴⁴ an interview with Michel Callon. Barry, A., & Slater, D. (2002). Technology, politics and the market: an interview with Michel Callon. *Economy and Society*, 31(2), 285–306. doi:10.1080/03085140220123171

IV.1.2. Participation

In addition to re-imagining drivers and agency, the proposal for national-level compensation legitimated a particular model of political participation for collective action. Here, the normative basis for collective action as a political endeavor vouchsafed through national pledges to reduce emissions is replaced with an economic norm, where self-interested countries acting through the invisible hand of the market are to simultaneously mitigate climate change for the good of the global public.

As quoted in the paper above, the proposal for compensated reduction was an effort to encourage “significant developing country participation in the Kyoto Protocol framework”. The role of developing countries in climate change mitigation had long been a sticking point in the negotiations, as had become apparent in competing interpretations the principle of ‘common but differentiated responsibilities’ endorsed in the Convention’s inception. With emissions rising rapidly in China and elsewhere in the developing world, developed countries had grown increasingly weary of interpreting the principle in a way that would continue to absolve the Global South from the responsibility for making emission reductions of its own. As early as 1997, the United States declared that it would not submit the Kyoto Protocol for ratification without the “meaningful participation of developing countries”, which it never clearly defined (Sari 2005). At the same time, developing countries, with historical and per capita emissions lagging far behind the developed world, were in no rush to voluntarily assume the reductions implied in the United States’ demands. They argued such cuts would jeopardize either their sovereignty or future development. Moreover, they criticized those demands as deeply unfair.

The proposal for compensated reduction was a deliberate effort to break the logjam in the climate negotiations by building on the norm that, whatever else it entailed, “meaningful participation”, meant that countries could *participate* in collective mitigation efforts by pledging to reduce emissions from within their own borders. The proposal re-interpreted this political norm through economics, and thereby opened the possibility of creating “incentives for developing countries to meaningfully participate in emissions reductions, while respecting the UNFCCC’s guiding principle of common but differentiated responsibilities.” Without these economic incentives, it was argued, developing countries would have no *political* reason to participate in emission cuts. But re-imagined as rational economic actors, these same countries could claim responsibility for mitigation efforts in their own borders, even if developed countries footed the bill. At the same time, and consistent with the international offset trade in the CDM, developed countries could also count the carbon offsets they purchased from mitigation activities towards their own commitments. This signaled a subtle, and perhaps unnoticed, shift in meaning of “meaningful participation” from a political commitment pledged within a community of nations to an economic option facilitated through financial incentives and, potentially, a global market.

IV.2. Path Dependence

Legal, technical, and other forms of expertise (episteme) are built into durable infrastructures (techne). Any infrastructure sophisticated enough to measure, report, and verify the 3 billion tons of carbon dioxide released from nearly 10 million hectares

tropical deforestation each year (Baccini et al. 2012, Harris et al. 2012),⁴⁵ will amount to what Paul Edwards (2010) calls ‘The Vast Machine’—a massive assemblage of satellites, local weather stations, national weather agencies, global circulation models, reporting protocols, and thousands of other heterogeneous elements into a “system of systems”. Such calculative infrastructures are path dependent like many large socio-technical systems (Hughes 1983), such as transport, communication, and power.⁴⁶

Therefore, once built, legal and technical infrastructures may be difficult to reverse. If so, early decisions about market design may mark a tipping point, with lasting consequences for public and private rights to natural resources, governing authority, and other constitutional matters.

The path dependency of large technical systems makes the choice between national or nested REDD+ hardly as independent as the typical palette presentation of REDD+ options would suggest (recalling that a strict project-based is not an option under the Warsaw Framework). The order a country pursues in developing its REDD+ accounting systems is likely to matter greatly in the kind of system it finally gets.

Flexibility turns on the assumption that these contingencies are irrelevant. While some observers note that a conflict of interest may arise between governments and project developers as REDD+ programs scale-up (Agrawal et al. 2011), they do not consider how conflicts may be preempted or predetermined in the early design of

⁴⁵ The figure of 3.0 Gt CO₂ yr⁻¹ from 2000-2005 is a consensus estimate between Winrock International and the Woods Hole Research Center (WHRC). Confusion erupted when WHRC released a much higher figure of 8.1 3.0 Gt CO₂ yr⁻¹, due to the inclusion of additional sources, including forest degradation and soils, over a longer time period from 2000-2010. See CIFOR blog post, Scientists ‘reach consensus’ on global deforestation emissions’, <http://blog.cifor.org/13144/scientists-reach-consensus-on-global-deforestation-emissions#.U-fySYBdXgM>, accessed 10 August 2014.

⁴⁶ also see: <http://www.econstor.eu/bitstream/10419/69255/1/735611971.pdf>

REDD+ infrastructures. Already, VCS is developing and piloting its subnational Jurisdictional and Nested REDD+ standard in half a dozen countries across the world. Designed well, these efforts have the potential to adapt themselves to changing public priorities; designed poorly they threaten to lock-in a narrow set of interests and divert resources from national reforms.

It is likely that a country that adopts a nested approach to build a national system from piecemeal projects will end up with a different kind of system than had it pursued a national-level approach from the outset. This carries legal and political implications that go beyond technical calculation. One of the most important is the definition and allocation of carbon rights—a legal novelty about the rights to own and trade carbon credits.

Under a nested approach, carbon payments will first be directed to the owners of projects for local forest protection, as opposed to central governments for broad reforms. Conversely, a central government that initiates a strong national approach to deforestation may later prove reluctant to relinquish ownership of carbon credits to private or sub-national entities. To the extent that a national system distributes benefits to sub-national governments and private investors, it is possible that they will take non-monetary forms rather than financial rewards.

With nesting, it is not apparent that a national-level approach need ever move forward. The UNFCCC's 'REDD+ Rulebook' opens a space for results-based payments to projects as an "interim" basis. The text does not define what interim means, but project proponents do. Paraguay's original submission, drawn from Pedroni and Streck's white paper on nesting, proposes that:

in case of implementation of activities at the sub-national level, once the total area of a participating country reaches XX% of its forest territory or, alternatively, more than YY years have elapsed since the start of the first sub-national activity, such country would have to adopt a national emission reduction goal.⁴⁷

Under one scenario, a country could direct payments to sub-national initiatives indefinitely, never graduating from a sub-national interim stage into a full-blown national one. Such a de facto project-based REDD+ could play out if projects never tripped the “XX%” forest area threshold, which the country itself is likely to define. In principle, projects could claim significant revenue while covering only a small fraction of a country’s forests because deforestation occurs in circumscribed hotspots, not everywhere all at once. There is no indication that this scenario is unfolding, but its possibility is what leads Greenpeace to note with a hint of dry sarcasm that the group “does not believe that the aggregation of projects that have failed individually to deliver real climate benefits makes for sound public policy.”

V. Conclusion

In this chapter, I have sought to bring together the major theoretical and empirical strands of the dissertation, which will play out across the remaining text. Of all chapters, this is the one most focused on the international policy space where nations have, through the global law-making powers of the UNFCCC, sent ripples through climate and forest

⁴⁷ Later versions of this idea update “national emissions reduction goal” with the national forest monitoring systems, for which sub-national monitoring is permitted as an interim measure in the REDD+ Rulebook.

governance the world over by delivering the REDD+ Rulebook. The express purpose of placing the international policy space first, however, is not to imply that nations have reached firm agreement on how tropical forests should be protected to fight climate change.

To call the REDD+ Rulebook an “agreement” is accurate in a literal or legal sense but impedes our understanding of global authority. The rulebook has reverberated widely to be sure, but in a way more like chaotic interference patterns than a clean and pure signal from a global center. More interesting signals, I argue, are detectable in the noise.

The following chapters identify those signals as moments of global constitutionalism, where rules and knowledge for environmental governance are coming into being together. Of particular interest is relationship between extant and emerging capabilities of public law-making and private expertise. The configuration of the two marks constitutional considerations, such how accountable those responsible for environmental decline, or define the identity and agency of political and economic actors. Since emerging technical capabilities for REDD+ and the green economy offer very different answers to these questions, the choice between technical proposals for REDD+ is also a constitutional choice. Moreover, it is a choice not easily undone because carbon markets are path dependent socio-technical infrastructures. To the extent that constitutions are in play in the design of market infrastructures, decisions made early in their history have the potential to be tipping points, where the harnessing of existing global capabilities of law-making in the UNFCCC are extended and appropriated in new technical capabilities for carbon accounting.

CHAPTER 3

STANDARDS OF TRUST IN THE VOLUNTARY CARBON MARKET: FINANCING LOCAL-SCALE PROJECTS AND DE-RISKING THE STATE

I. Introduction

As of 2015, no regulated market in the world trades REDD+ credits. Millions of tons of REDD+ credits surged into the voluntary market years earlier, though, after the UNFCCC endorsed REDD+ in the Bali Action Plan in 2007. Project developers and conservation groups led the campaign, intent on creating a thriving market in voluntary carbon credits and using that market as a platform to launch a full-scale global regulated market with the backing of the world's governments. These groups had embarked on a rocky course, which challenged them to rethink what REDD+ could and should become after finding that their vision differed sharply with the vision of many of the countries whose support they solicited.

This chapter charts the consolidation of private REDD+ standards and an influential transnational network of private REDD+ experts. Over the course of a decade, private standard-setting organizations, conservation groups, project developers, and large financial investors came together outside of the international negotiations to assemble the voluntary market for REDD+. Their goal was to prompt governments to establish a global compliance market by building early action projects, monitoring and verification standards, and related forms of knowledge and practice, which were to demonstrate the feasibility of project-based REDD+.

Expertise figured centrally in their strategy. This chapter recounts how functional *calculative capabilities* emerged out of the *proto-capabilities* (i.e. rudimentary

accounting frameworks) discussed in Chapter 2. Section II theorizes the emergence of calculative capabilities of private actors. It begins with an account of the flourishing offset verification and validation industry in the Clean Development Mechanism, contrasting the development of standards for CDM-eligible projects with the development of standards for REDD+.

Section III uses this theory to make sense of the production of civil regulations for: 1) calculating carbon credits, and 2) owning carbon credits. The case material reveals how standard-setting organizations (e.g. VCS and close associates in transnational conservation groups like The Nature Conservancy and Conservation International) acted as critical intermediates between project developers (e.g. Wildlife Works and Terra Global) and donors and financial investors (e.g. US Government and BNP Parabis).

I use these cases to illustrate: 1) how third-party certification emerged first for private demand in the voluntary carbon market (especially for efficiency and financial risk mitigation), and 2) how those projects were part of a strategy to create regulatory demand for expertise. The conclusion underscores that the different demands of private actors and public regulators introduced potential tensions over the shape and purpose of knowledge—an issue that Chapters 4-6 elaborate in the initiative to create a common REDD+ market in Chiapas and California.

II. Theorizing the Emergence of Calculative Capabilities

II.1. A Problem for Prototypes

“No, it’s not abstract, up there in the clouds!...I can see it. I can measure it.” So begins the cover story of a 2010 article in Harper’s Magazine quoting Talita Beck, an emissions

assessor for a company called the SGS Group, one of the biggest in the multi-billion dollar carbon trade business. While invisible planet-warming emissions might be mere apparitions for most people, they are almost tangible for Beck. As an emissions assessor, her job is to measure the greenhouse gases issuing from farms, factories, and other sites that host projects seeking to turn emission reductions into carbon credits, and carbon credits into cash. Few professions are so grounded and practical as the accountant, nor as critical to the smooth-running of the machinery of the modern world (Power 1999).

Beck is not an evangelizing scientist stirring the global environmental imagination in her daily affairs. She is not a younger James Lovelock (2007) heralding *The Revenge of Gaia*, or even a lesser-known member of an ‘epistemic community’ trying to persuade nations to save the global environment with targeted appeals to scientific fact (Haas 1990, Adler & Haas, 1992). Beck and the thousands of other auditors, verifiers, technicians, and statisticians who keep the carbon market running are regularized professionals in an industry barely a decade old. Without their measurement protocols, accounting techniques, and industry standards, the US\$50 billion carbon economy that emerged with the trade in carbon offsets through the Kyoto Protocol’s CDM would quickly come grinding to a halt. That a multi-billion dollar market in a commodity as intangible as carbon has emerged in a few short years speaks to an impressive capacity for professions and practices to create order and economic value from what a decade earlier were scientific abstractions.

An industry for the third-party certification of carbon offsets in the compliance market of the CDM did not spring up overnight. In 1997, eight years before the CDM came into force, the SGS Group became the first company to offer forestry-related offset

projects independent, third-party verification (Moura-Costa 2000). After the CDM rules were agreed to in 2001, the SGS Group became one of the chief companies delegated authority to monitor and verify offset projects for the CDM. Before 1997, efforts focused on demonstration projects designed as experiment with options for offsetting emissions for an anticipated carbon market. Experimental projects like Noel Kempff and Scolel Té were left behind when Parties excluded avoided deforestation from the CDM in 2001 (see Chapter 2).

As a result, third-party monitoring and verification standards for monitoring and verifying avoided deforestation projects never became embedded in the institutions of the CDM—in the language used here, they never became more than proto-capabilities in the CDM or any other compliance market. The voluntary carbon market, however, tells a different story. Around 2007—the same time Parties to the UNFCCC recognized REDD+ in the Bali Action Plan—third-party certification for avoided deforestation projects gained steam in the unregulated, voluntary carbon market. Ever since, proponents for local avoided deforestation projects have sought to reintroduce them into the international rules and regulations for REDD+. Santilli’s proposal for compensated reductions for national-level emissions—the precursor to REDD+ (Chapter 2)—offered the opportunity to do so.

The proposal for national compensated reductions had the unintended effect of renewing incentives for private actors to advocate and implement demonstration projects for avoided deforestation. Private actors expended significant resources on demonstration projects and third-party monitoring and verification standards in the voluntary market in the absence of any agreement by Parties to issue performance-based payments for

REDD+. In principle, fund-based payments might materialize, but this money was far from guaranteed and unlikely to arrive in the sums needed to incentivize project investment.

This poses a puzzle for three reasons. First, private actors did not make serious investments in third-party standards until after countries agreed to create a compliance market in 1997 with the adoption of the Kyoto Protocol. By contrast, ten years later—when the Bali Action Plan recognized REDD+ as a key agenda item in the climate negotiations—standard-setting for avoid deforestation was already well underway in the voluntary market.

Second, early discussions on ‘reducing emissions from deforestation’ (when REDD+ was still RED) centered on national-level accounting in large part because of technical uncertainties at the project level. Once bitten, project-proponents might then be twice shy. This is not what happened. They instead saw a moment for innovation and investment, which required a strategy to convert skeptical nations into project believers. Demonstration was the voluntary market’s *raison d’être*.

Third, and the focus of this chapter, before private groups could plausibly argue their case, they had to demonstrate fully functioning calculative capabilities in the voluntary market. Thus the voluntary market was to be a nursery where proto-capabilities could be tested and shown to work, and, from there, instigate full-blown public legislation for market-based REDD+.

To make the case that this intermediate stage is a key part of the story in its own right, I distinguish between the demands for expertise by public and private actors, as well as kinds of private actors, and the influence different demands have on the content of

expertise. The following sub-section elaborates the concept of civil regulations to understand the process by which private rules for carbon accounting emerge, take shape, and are adopted by private actors, before being authorized by public law.

II.2. Civil Regulation

Third-party certification standards like those devised by the SGS group in the CDM refer to the civil regulations, or “codes, regulations, and standards that are not enforced by any state and that address the...environmental impacts of global firms and markets, especially in developing countries” (Vogel 2008). Civil regulations are examples of what Jessica Green (2014) calls private entrepreneurial authority, or “situations in which private actors create rules without the explicit delegation of authority by states”. Green offers a theory of supply and demand to account for the emergence of civil regulations:

My basic contention is that private authority emerges because actors in world politics—states, private actors, and institutions comprising both types of actors—anticipate that they will benefit from deferring to private authority. In other words, the effect, private authority, can be explained by its anticipated benefits.

This idea offers an entry point to understand the relationship between global law-making and global calculation. The somewhat remarkable reintroduction of avoided deforestation projects into the international agenda, however, shows the extent to which non-state actors not only respond to but actively shape demand by influencing the content of

international law. This goes beyond overt lobbying or the subtle ways epistemic communities (Haas 1992) shape state interests by framing complex and uncertain issues.

I argue that to understand how specific proto-capabilities gain authority in fully-fledged systems of calculation (including civil regulations in the voluntary or compliance market) requires a close look at the content of law and calculation themselves. To understand the relationship between the content civil regulations and global environmental law, we must look at how that process unfolds. In this chapter, I aim to do this by:

- 1) *Distinguishing* demand for civil regulations for purely private reasons (e.g. eco-labeling schemes targeting green consumers) from civil regulations created in response to current or anticipated government regulation (e.g. corporate social responsibility (CSR) efforts aimed at persuading public agencies that binding regulations are unnecessary);
- 2) *Differentiating* between the demands of private actors. In the current case, this includes conservation organizations seeking to finance conservation initiatives; offset project developers attempting to build a new industry; and large financial investors looking for lucrative investment opportunities;
- 3) *Examining* how the content of civil regulations reflects (possibly competing) private demands; and

4) *Comparing* the content of civil regulations with the content demanded by public regulations. (This is the task of Chapter 4.)

Methodologically, this means tracing the process that translates proto-capabilities into bonafide civil regulations.

III. Building Capabilities for Civil Regulation

By 2010, REDD+ credits accounted for roughly one-third of all transactions in the voluntary carbon market. Given the above theorization of the emergence of calculative capabilities through civil regulation, the task of the following cases is to account for how those regulations consolidated around a few core standards and a transnational network of standard-setters, project developers, and financiers. The cases are broken into two main sections. Section III.1 focuses on standards for measuring and verifying REDD+ credits, which emphasized reducing transaction costs to project developers (through efficient and credible third-party certification). Section III.2. centers on techniques for accounting for the ownership of credits, with an emphasis on capital risk mitigation for large investors (through insurance, accounting innovations, and legal protections against foreign ‘government risk’).

III.1. Calculating Carbon Credits

III.1.1. A Babel of Standards

Despite the high-level endorsement of REDD+ in 2007, a babel of standards posed a challenge for the budding market by sapping confidence from potential buyers and

project investors in the integrity of REDD+ offsets. The Clean Development Mechanism (CDM) had already experienced this impasse years earlier, when onerous measurement, reporting and verification requirements proved insurmountable for scores of forestry projects, very few of which succeeded in gaining certification.

It was a biting lesson for the carbon market lobby, leading the International Emissions Trading Association (IETA) to remark, “the whole process is hugely complex, discouraging its integration in the normal course of business processes” (Backstrand & Lovbrand 2005). Robert O’Sullivan, head of North American operations at the carbon market consultancy Climate Focus, lamented that the CDM led to the development of:

a bunch of project-specific methodologies that cost a lot of money that cost a lot of money [but] that didn’t help the market development in general.... We thought [that we could foster project investment] if we took a different, modular approach where you had a broader applicability...[which is] helpful for market development and means that project developers don’t have to go through that massive cost and upfront exercise of developing their own methodologies.⁴⁸

A major 2007 survey of forest carbon projects illustrates the problem. The survey was prepared by Forest Trends, a coalition formed in 1996 by leaders from the forest industry, private donors, and major environmental groups to promote market-based approaches to conservation. As the go-to organization for project developers and conservationists

⁴⁸ Ecosystem Marketplace. ‘New Methodology Sets Building Blocks for REDD’. 3 Dec 2010. http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=7869§ion=home

hoping to get into the carbon trade, the study was the first in an ongoing, widely-read series of reports on ‘The State of the Forest Carbon Market’ based on surveys of market participants. The review looked back to the mid-1990s, when projects began to produce forest carbon credits through conservation, tree-planting, or other activities for both voluntary and compliance markets. The results, gathered from a survey of 61 project developers of 226 projects in 40 countries, highlighted “significantly varying project designs, methodologies and implementation strategies to create credits.”

Before 2007, most projects adopted internal standards but later underwent a rapid shift towards consistent, reputable benchmarks verified by third-parties. In 2002, only 15% of offsets were third-party certified. By the first half of 2009 the number grew to 96%, and 23% of all third-party certified offsets were validated under the CCB standard for environmental and social co-benefits. The demand for reputable third-party certification winnowed the hodgepodge of standards in earlier projects in a short amount of time. This consolidation signaled the perception that rigorous measuring, verification, and reporting of emission reductions were critical to prepare for the global compliance market thought to be only a few years away.

Even after third-party certification largely replaced the earlier practice of self-certification, a maze of standards remained. These included the American Carbon Registry Forest Project Standard, CarbonFix Standard, Climate Action Reserve (CAR), Australian Greenhouse Friendly initiative, ISO 14064 GHG project accounting standard developed by the International Organization for Standardization (ISO), Plan Vivo, Société Générale de Surveillance (SGS) Carbon Offset Verification Standard, and SOCIALCARBON. The lack of common standards imposed a roadblock for projects

seeking financial support from international donors and, increasingly, the carbon market departments of big firms like Bank of America and BNP Parabis, which had expressed interest in investing in REDD+ projects.

Within a few short years, however, the VCS and CCB had emerged as the undisputed leaders in standards and methodologies for the voluntary carbon market. From 2008 to 2009, the share of projects combining the CCB with the VCS or American Carbon Registry standards more than doubled from 15% to 35%.⁴⁹ By late 2014, over 1200 projects registered under the VCS, claiming more than 160 MtCO₂e in emission reductions,⁵⁰ and the CCB had certified 23 of 85 project applications across 35 countries.⁵¹ That same year, the VCS Association, the organization operating the VCS, assumed authority over the CCB in the name of increased efficiency and reduced transaction costs, and California elevated the Association's legal status to one of three entities authorized to register carbon offsets under the state's cap-and-trade program.

III.1.2. Consolidating Standards and Standard-Setters in the VCS

The VCS drew the 'who's who' of people building the voluntary carbon market. The organization was founded in 2005 by a group of high-profile players in the carbon market, including the Climate Group, International Emissions Trading Association

⁴⁹ Forest Trends. 2010. State of the Forest Carbon Market.

⁵⁰ VCS Project Database, <http://www.vcsprojectdatabase.org/>, accessed 24 November 2014.

⁵¹ Ecosystem Marketplace notes, "After handing off the management of CCB, representatives from the Alliance's five member organizations – CARE, Conservation International, The Nature Conservancy, the Rainforest Alliance and Wildlife Conservation Society – will continue to offer guidance through a steering committee co-chaired by Durbin and VCS Sustainable Landscapes Director Toby Janson-Smith." see http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10651§ion=news_articles&eod=1

(IETA), and World Economic Forum. The World Business Council for Sustainable Development (WBCSD) joined soon thereafter. Other early supporters included two major carbon market auditors: a subsidiary of the global business and engineering services firm Lloyd's Register Group Limited (LR) and the world's second biggest professional services network, PricewaterhouseCoopers.

The founders recognized the need to fortify the standard with scientific and technical expertise. As a first step, they created a Steering Committee composed of nineteen carbon market professionals to draft the initial VCS⁵² guidelines for issuing VCS-certified Voluntary Carbon Units (VCUs).⁵³ (One VCU represents one ton of carbon dioxide equivalent (CO₂e) that has been removed or prevented from entering the atmosphere.⁵⁴) However, these were high-level guidelines and left much fleshing out in the detailed methodological rules and practices needed to verify and validate emission reductions for a number of specific offset-types, spanning forestry, energy, industrial processing, agriculture, waste, livestock and manure, wetlands, grasslands, mining, construction and transport. The forestry category alone contains nearly a dozen individual methodologies, such as Agriculture, Forestry and Other Land Use (AFOLU) for afforestation, reforestation and revegetation (ARR), agricultural land management (ALM), improved forest management (IFM).

Professionalization helped to address the VCS's growing need for credible expertise. In 2009, the organization incorporated as a non-profit in Washington, D.C.,

⁵² The Voluntary Carbon Standard changed its name to the Verified Carbon Standard in 2011.

Yoshito Izumi (Observer), Taiheiyo Cement

⁵⁴ Eligible greenhouse gases are: Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF₆).

replete with a professional staff and expert committees overseeing a multi-year Methodology Approval Process. The organization also established expert advisory committees for REDD+, with representation from some of the most active players in the voluntary market. The committees included individuals from iconic REDD+ mega-projects, including two introduced in the preceding chapter (Wildlife Works and Terra Global), as well as representatives from a number of major financial institutions, such as BNP Parabis and World Bank Forest Carbon Partnership Facility (FCPF).⁵⁵

One of the functions of these experts was to review and validate the methodologies submitted to the VCS under the organization's double-validation Methodological Approval Process.⁵⁶ A successful review would allow projects using these methodologies for different offset types to gain certification under the VCS. This meant that projects could be issued VCU's for their offsets and gain access to buyers they would be unable to access alone.

III.1.3. Terra Global, Wildlife Works, and a “Watershed Moment for REDD Projects Everywhere”

The VCS REDD methodologies did not originate in the VCS Association but in a handful of mega-projects that had developed REDD methodologies for their own individual initiatives. (The VCS referred to REDD rather than REDD+ methodologies because their development preceded the formal adoption of the “+” at COP16 in 2010). The arrangement was of mutual benefit to project developers and the VCS. The imprimatur of

<http://www.v-c-s.org/node/283>

⁵⁶ VCS Methodological Approval Process, v3.5. Issued 8 Oct 2013. <http://www.v-c-s.org/sites/v-c-s.org/files/Methodology%20Approval%20Process%2C%20v3.5.pdf>

the VCS offered project methodologies an extra level of credibility, while enhancing the credibility of the VCS itself with project-developers' on-the-ground expertise. Leaning on the reputation of its advisers, the VCS approved the first methodology for REDD in August 2010. Four more methodologies tailored to a range of ecosystems and project types soon followed, which stimulated a surge in project investment, true to the founders' intent in 2005.

The first methodology, for *Conservation Projects that Avoid Planned Land Use Conversion in Peat Swamp Forests*, was prepared by Winrock International on behalf of the Hong Kong-based InfiniteEARTH for its Rimba Raya Project on the Indonesian Island of Borneo.

Announcing the new methodology, VCS CEO David Antonioli made a direct connection between it and finance:

The carbon market can now have a role in REDD, and that's a sea change from where we were last week...It is great news for the sheer benefit of helping to channel finance to real projects that have real impacts on the ground.⁵⁷

The first project to be issued VCUs, however, was not Rimba Raya's peatland project in Indonesia but Wildlife Works' Kasigu Corridor REDD project in Kenya under its methodology for *Avoided Mosaic Deforestation of Tropical Forests*. The project had already been validated and verified under the CCB and had over one million tons in

⁵⁷ Ecosystem Marketplace. 'VCS Unveils its First Methodology for Generating Carbon Credits by Saving Trees'. 25 Aug 2010. http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=7694§ion=home.

annual carbon reductions certified after gaining VCS certification in February 2011. Although Plan Vivo had already issued third-party REDD credits the year before, Wildlife Work's project was enormous, receiving more credits from the VCS under its first issuance than any other standard had issued altogether up to that point in time. Antonioli again drew a strong link between the standard and finance, saying:

This is a watershed moment for REDD projects everywhere because it demonstrates they can attract private investment to this critical work.

Funding did indeed roll in. In September 2010, just months before the Cancún COP, the commodities derivatives arm of the French banking giant BNP Parabis lent \$50 million to the project.⁵⁸ In turn, Wildlife Works agreed to grant BNP Parabis the right to purchase up to 1.25 million VCUs from the Kasigu Corridor over the next five years,⁵⁹ echoing a similar deal the Russian gas giant Gazprom struck with Rimba Raya.⁶⁰ South Africa's Nedbank Group provided millions more to the project, and by the following summer Macquarie Bank of Australia and the U.S. forest management firm, International Finance Corp. raised a further US\$25 million.⁶¹

⁵⁸ Ecosystem Marketplace. 'BNP Paribas and Wildlife Works Ink \$50 million REDD Deal'. 21 Sep 2010.

http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=7717

⁵⁹ NY Times, 'A Slow Start for the Carbon Credit Market', 24 July 2011.

http://www.nytimes.com/2011/07/25/business/energy-environment/a-slow-start-for-the-for-carbon-credit-market.html?pagewanted=all&_r=1&

⁶⁰ BloombergBusiness. 'Wildlife Works Gets Carbon Credits for Kenyan Project'. 31 May 2011. <http://www.bloomberg.com/news/articles/2011-05-31/wildlife-works-gets-carbon-credits-for-kenyan-project-correct->

⁶¹ NY Times, 'A Slow Start for the Carbon Credit Market', 24 July 2011.

<http://www.nytimes.com/2011/07/25/business/energy-environment/a-slow-start-for-the->

Years earlier, Korchinsky had been a successful businessman as co-founder of a leading management consulting firm. The sale of that firm in 1995 to the publicly-traded company Cambridge Technology Partners earned him millions and the opportunity to test business strategies in conservation projects like the Kasigu Corridor. It also afforded him personal connections with Wildlife Works' financier BNP Parabis, including two former bankers who launched Athelia Climate Fund to drive new sources of finance for the preservation of natural capital. The Fund, which includes REDD+ projects among its 60 million euro investments, prioritizes standards like the VCS and CCB to ensure the "highest calibre social, environmental and economic performance."⁶²

Korchinsky went on to found Code REDD, a non-profit whose mission is to "whose mission is to support and scale the REDD+ mechanism to realize its full potential to empower people, preserve forests, protect wildlife, and reduce emissions."⁶³ Heeding investors' call for standards to ensure high-caliber performance, Code REDD "works to build long-term, sustainable demand for REDD+ Verified Emission Reductions (VERs)" with a "connects-the-dots" approach between investment and reporting standards such as the VCS. A business-based approach is central to the organization's vision:

We aim to create a world where the REDD+ mechanism is widely adopted within private sector practices, corporate business models, and regulatory frameworks to

[for-carbon-credit-market.html?pagewanted=all&_r=1&](http://www.coderedd.org/members_all/althelia-ecosphere/)

⁶² Athelia Ecosphere website. http://www.coderedd.org/members_all/althelia-ecosphere/ accessed 5 Mar 2015. Also see Forest Trends. 'Keeping Grasslands Wild: Inside Athelia's \$10 Million Investment in Kenyan Wildlife Works Project.' <http://www.forestcarbonportal.com/news/keeping-grasslands-wild-inside-althelias-10-million-investment-in-kenyan-wildlife-works-project>

⁶³ Code REDD. <http://www.coderedd.org/about-code-redd/> accessed 5 Mar 15.

drastically reduce deforestation, value ecosystem services, promote low carbon development, and enable a transition to the green economy.

In December 2011, the VCS approved a third REDD methodology for *Carbon Accounting in Project Activities that Reduce Emissions from Mosaic Deforestation and Degradation*. Following Rimba Raya and Wildlife Works, this methodology originated from the developer of a mega-REDD+ project, Terra Global's 63,841 ha Oddar Meanchey project in Cambodia.⁶⁴ And like Korchinsky at Wildlife Works, Terra Global's director, Leslie Durschinger, bestrode the worlds of finance, conservation, and development. The two would also join the VCS expert advisory committees on REDD+.

Before founding San Francisco-based Terra Global Capital, LLC, Durschinger spent 20 years in the financial services industry, gaining experience in derivatives trading, investment advisory, algorithmic trading, risk management, and securities lending. During that time she worked for some of the world's largest banks and brokers—JP Morgan, Merrill Lynch, Barclays Global Investors and Charles Schwab.

Like Korchinsky, Durschinger recognized the need for common standards to reassure investors that they would not be on the hook for false emissions. To this end, she worked to build Terra Global's reputation for "proven carbon market expertise", staffing the company with credentialed technicians and informing the readers of publications like

⁶⁴ Forest Carbon Portal, <http://www.forestcarbonportal.com/project/oddar-meanchey-forest-carbon-project>, accessed 7 August 2014. Also see Code REDD, <http://www.coderedd.org/news/cambodia-verifies-the-worlds-first-vcs-triple-gold-ccb-avoided-deforestation-project/>, accessed 7 August 2014. Also see VCS database, <https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=904&lat=14.2461233241779&lon=103.724792743118&bp=1>, accessed 7 August 2014.

*Institutional Investor Magazine*⁶⁵ and *The New York Times*⁶⁶ of her company's growing track record in getting offset projects of the ground Credibility is the lynchpin in the company's press materials and company documents, underscoring that investments in Oddar Meanchey and other projects will deliver environmental and social benefits, and long-term capital returns. The ultimate goal, however, went far beyond the voluntary market to "emission reductions that are today verified under voluntary carbon offset standards but that will in the future be eligible under compliance standards or other payment-for-performance based bilateral offset schemes."⁶⁷

The firm linked expertise and finance to become a carbon market pioneer. One of its most notable accomplishments was the creation of the first private equity fund for REDD+ projects in 2011. Terra Global secured US\$40 million from the Overseas Private Investment Corporation (OPIC) for the Terra Bella private equity and venture capital fund, "the world's first globally diverse community-based REDD and land-use carbon fund."⁶⁸ Administered under Terra Global's subsidiary, Terra Global Capital Management (TGIM), the Fund "provides early-stage project finance capital to high impact community-based forest and agricultural emissions reductions projects in

⁶⁵ Institutional Investor. 'Pensions Consider the Rain Forest'. http://www.institutionalinvestor.com/Article/3024131/Research/4117/Overview.html#.VG6U_Fff_ue, 7 May 2012, accessed 21 Nov 2014.

⁶⁶ NY Times, 'A Slow Start for the Carbon Credit Market', 24 July 2011. http://www.nytimes.com/2011/07/25/business/energy-environment/a-slow-start-for-the-for-carbon-credit-market.html?pagewanted=all&_r=1&

⁶⁷ 'Terra Global Secures Investment Capital for REDD and Land-Use Carbon Fund', Reuters, 3 November 2011, <http://www.reuters.com/article/2011/11/03/idUS155646+03-Nov-2011+BW20111103>

⁶⁸ Ibid.

developing countries.”⁶⁹ Altogether, the Fund aimed for a capitalization of US\$100 million to invest in 60 projects, with 10-20 of those coming in the first three.

The elevation of Wildlife Works and Terra Global from individual project developers to VCS icons demonstrates the power of standards to jump-start investment by creating a common, credible link between carbon accounting experts, projects developers, and financiers. From their origins in a hodgepodge of projects, this coterie of transnational experts oversaw the emergence of the VCS as the foremost standard in the voluntary REDD+ market. The consolidation of standards and standard-setters in the VCS shows how the creation of centralized institutional and epistemic space can exert to coordinate far-flung market players. Such spaces offer knowledge brokers the power to shape the networks in which they are embedded (Gallemore & Munroe 2013).

III.1.4. Shaping a ‘Vast Regulated Arena’

The consolidation of standards and standard-setters did much to boost the voluntary market by encouraging investment and easing the burden on project developers. An absence of a global compliance market, however, set limits on how much that demand might grow. Market participants were well aware of this fact. They were also aware that credible standards and standard-setters in the voluntary market could make them first-movers in a regulated market by getting in early and setting the groundwork for the years ahead.

The VCS Association reflected its growing scope and ambition with a subtle name change when it changed the “V” from “Voluntary” to “Verified” in 2011. The

⁶⁹ Ibid.

Association's CEO David Antonioli and Chairman Gudmundur Sigurthorsson explain the change:

After more than a year of consultation, we have concluded that the Verified Carbon Standard is a name that inspires trust and opens doors. It is a name that will position the VCS Program, and all those who rely on it, to better engage with new emerging sources of demand as carbon markets grow and change.⁷⁰

This passage hints at how verification builds *trust*, and how trust, in turn, is needed to help markets grow by coordinating market activities. It is also telling that they use the word *position*, for social network analysts likewise refer to the “advantageous positions” that confer power and influence to groups and individuals within a network. When it comes to REDD+, Gallemore and Munroe (2013) argue that knowledge brokers secure their advantageous position as a go-between for different kinds of groups who need each other to accomplish distinct but mutually dependent goals:

knowledge and resources often outstrip what organizations can muster on their own. Development institutions need organizations with the technical capacity to undertake REDD+ projects. These organizations, in turn, require access to local knowledge and expertise, just as local organizations require access to technical facility and resources to carry out their objectives.

⁷⁰ VCS website. accessed 2.24.15. <http://www.v-c-s.org/news-events/news/vcs-change-name-verified-carbon-standard-1-march>

Here they are talking about REDD+ projects, but the same could be said at least as strongly of trust in the VCS brand, on which so many of those projects rely to substitute for the trust they themselves lack with prospective buyers and investors. What, though, do Antonioli and Sigurthorsson mean by trust—a word they repeat three more times in the space of a few paragraphs? And how does it serve to position the VCS within the growing market?

We have decided to adopt the word 'verified' into our name to emphasize our core value proposition – *trust* in VCS quality assurance....Ultimately it is *trust* in VCS quality assurance that opens doors and spurs demand for the VCS Program and credits....Therefore it is *trust* we will emphasize in our work to strengthen VCS brand positioning. (Emphasis added.)

Part of the answer is the emphasis on trust *in* the VCS, which, as previously discussed, is the trust of buyers and investors in the integrity of carbon offsets. Trust then is a relation between knowledge brokers and their clients, as well as a relationship between representation and reality. It is a relation that helps to position, or coordinate, their activities within a market where buyers and sellers are ready to do what buyers and sellers do but lack the capacity to do it alone. In the parlance of economists and market players themselves, it is a transaction cost resulting from incomplete information. More fully, it is the missing market infrastructure, which would otherwise lend confidence that carbon, not snake oil, is for sale. In the present discussion, the VCS aims to fill that gap

as a trusted third-party, thereby minimizing transaction costs and empowering the market to grow of its own natural accord.

Trust is a belief made possible by a collective understanding, in this case, of the VCS as the standard among standards. For REDD, and in all likelihood other offset types too, this shared understanding emerged from the snowballing of project expertise into the methodologies and advisory network of the VCS and vice versa. Antonioli and Sigurthorsson underscore this point in the passage above, emphasizing both collective and corporate descriptors: “our work”, “quality assurance”, the “VCS brand”. Their message is that the trust in the VCS is key to boosting demand because it credibly informs buyers that their purchases are secure and certified by an esteemed team of professionals. More subtly it informs project developers that, if they haven’t already, they too should become VCS certified to access the demand that will soon be flowing in.

That answer, however, leaves out an important part of the equation because the VCS brand was not just serving an economic function by convincing buyers that the credits they purchased were real (or at least that they might not be held legally, morally, and financially accountable if they were not). It was also serving a regulatory function by sending a message to governments that the voluntary market had already accomplished much of the accounting legwork that had tripped up earlier carbon markets, thereby easing government reluctance to create and support future carbon markets.

‘State of the Forest Carbon Market 2009: Taking Root and Branching Out’ underlines the real prize at stake, and it is not the modest tens of millions of tons of carbon traded in the voluntary market. It is the tens of billions of tons that might be traded in the “vast regulated arena”:

When asked about the impact of standards on the forest carbon market, Jonathan Shopley, founder of the Carbon Neutral Company, describes the recent “leaps of progress in the underpinnings of the market and degrees of professionalization.”...These movements highlight both the commoditization of the OTC [Over-The-Counter] voluntary carbon markets and the *influence of this relatively small marketplace on the potentially vast regulated arena*. (Emphasis added.)

The quote suggests that standards and standard-setters like the VCS were poised to shape the coming regulated market in much the same manner they had the voluntary market. Thus, the consolidation of standards and standard-setters—of knowledge and expert institutions—marks a moment when what was strictly a voluntary, private sector effort from the bottom-up set its sights on bolstering and expanding into a much larger, state-sponsored program from the top-down. Indeed, the strategy of building private sector trust in the VCS had helped to secure tens of millions of dollars for REDD+ projects once the third-party certifier inspired well-pocketed financiers to be confident in the integrity of REDD offsets.

In the case of REDD+, organizations like the VCS would need to adopt language and practice aligned to the governments whose support they solicited. To follow Shapin (1995), they would need to create ‘vectors of credibility’ with governments in the regulated market as they had for financiers in the voluntary market. Doing so would enable them to build the ‘economies of credibility’ that would allow voluntary standards and professional standard-setting organizations to travel into state policies and

institutions. Recalling the idea that the authority of governments to coerce a compliance market into being, the discourse and practice of the voluntary market should not undercut, and should ideally support legitimate government. To do that, however, would first require voluntary market players to overcome the ambivalent and at times antagonistic attitude towards the state.

III.2. Owning Carbon Credits

III.2.1. Contesting Public and Private Domains

Standards helped crack the finance puzzle, but a regulated REDD+ market still did not exist. Parties to the UNFCCC did not even agree that such a market should exist. They had, in principle, declared near-universal support for REDD in the Bali Action Plan in 2007 but remained divided on whether it should take the shape of a market, dedicated fund, or some combination of the two. Private sector REDD+ proponents therefore depended much more on governments to reach their goals than the reverse, for governments had no common goal to be reached.

The lack of a global agreement remained a barrier to financiers like Abyd Karmali, head of carbon markets at Bank of America Merrill Lynch, who, when “testing the waters” in REDD investments in 2011, remarked, “Secure demand is all it would take to motivate more private sector interest.”⁷¹ Carbon market advocates attributed the lack of demand as a mismatch between government and the private sector, imploring the former to recognize and support the strides already well underway in the voluntary market.

⁷¹ NY Times, ‘A Slow Start for the Carbon Credit Market’, 24 July 2011.
http://www.nytimes.com/2011/07/25/business/energy-environment/a-slow-start-for-the-for-carbon-credit-market.html?pagewanted=all&_r=1&

According to Donna Lee, a lead US negotiator on REDD+ who went on to consult for Climate Focus:

We are not going to get the scale of what we need without participation by the private sector...There is a disconnect between the understanding by countries and negotiators and the private sector of what the private sector needs in order to participate in REDD...When you look beneath that surface layer, you see the pieces that are there that will ultimately build the market for REDD. Slowly but surely you will see increased demand and successful and well-designed projects on the ground securing private capital.⁷²

Karmali and Lee understated the challenge. Securing demand required government support, which called for much broader strategy than the one used to build the voluntary market.

Part of the private sector efforts to spark demand took place at the international level, where Durschinger, Streck, Pedroni and colleagues asserted their role as advisers to the UNFCCC process, arguing that common standards were a proven route to scaled-up finance. IETA took an active role drafting numerous submissions and convening prominent side events at the COP. It also became one of very few non-governmental groups to claim an office and meeting space in the UNFCCC Delegates Pavilion alongside the EU, US, China and small group of other world powers. IETA used the

⁷² NY Times, 'A Slow Start for the Carbon Credit Market', 24 July 2011.
http://www.nytimes.com/2011/07/25/business/energy-environment/a-slow-start-for-the-for-carbon-credit-market.html?pagewanted=all&_r=1&

annual COP to gain the ear of delegates through a great many side events, such as a 2013 event paneled by Antonioli, Durschinger, and Korchinsky on the ‘Convergence of REDD+ Standards in a Fragmented Market: What Opportunities for REDD+ Financing.’⁷³

Framing the problem as a simple lack of demand, however, statements like Karmali’s and Lee’s assume that the voluntary market had solved the problem of supply with projects like Rimba Raya, Oddar Meanchey, and the Kasigu Corridor. In actuality, IETA, VCS and other project proponents directed their outreach as much to developing countries that would supply REDD+ credits as the developed countries that would demand them, for many developing countries were skeptical of the superiority of a market over a dedicated fund for REDD+.

Just to the south of the Kasigu Corridor in Kenya, for example, Tanzania’s central government proved reluctant to pursue projects and the devolve rights and decision-making over forest resources to local communities on the premise that Tanzania’s forests are a public good that should deliver benefits to the nation as a whole.⁷⁴ In place of a market model, Tanzania drafted a National REDD+ Strategy proposing a centralized system that would feed payments directly into a National Trust Fund. The Tanzanian Forest Act of 1998 confers to communities owning Village Forest Reserves the right to the benefits accruing from them.⁷⁵ From the perspective of influential actors in

⁷³ The side event was held at COP19 in Warsaw. see http://ivy5.epa.gov.tw/enews/enews_ftp/102/1121/220653/cop19%20ieta%20side%20event%20program.pdf

⁷⁴ Lutrell 2013

⁷⁵ CIFOR (2012). ‘Analysing REDD+’.

Tanzania's relatively weak central government, a National Trust Fund would ensure the government had access and control over REDD+ revenues.⁷⁶

Tanzania's National REDD+ Strategy is in line with the original 2005 proposal for RED. As discussed in the preceding chapter, the RED proposal was devised by Brazilian and American researchers in the Amazon Environmental Research Institute (IPAM), who called for national-level monitoring and reporting. The researchers intended this national-level proposal to solve the scientific, technical, and political problems that had kept avoided deforestation out of the CDM. Among the most pressing of these problems stemmed from concerns over the reliability of emission reductions from avoided deforestation projects, which critics said simply displaced deforestation in space to other areas or in time through unforeseen forest fire, illegal logging, or some other threat.

Concerned about being left out of the global carbon market once again, project developers mounted a response with proposals of their own. They put forth projects as critical to getting REDD+ off the ground, couching their arguments in terms of the technical feasibility of advanced remote sensing practices to cheaply monitor carbon stocks at a local scale, as well as the economic efficiency of paying the relatively paltry opportunity cost of smallholders to pursue forest-friendly land use. In order to get governments on their side, however, market advocates had replace their portrait of the state as risky antagonist with a view of it as a constructive partner.

⁷⁶ Interview 1 Jan 2015.

III.2.2. Managing Government Risk

The VCS encouraged private capital investment by positioning itself as a credible knowledge broker between projects and financiers. Yet this was not enough to secure adequate investment due to uncertainties over government policy, which investors viewed as a form of risk, as they had with uncertified carbon credits. By defining public policy as a form of risk, they opened the possibility to quantify and manage that risk, rather than simply waiting for governments to make a final decision before investing in REDD+ projects.

A representative view comes from Ricardo Bayon, partner and co-founder of the environmental market advisory and investment firm, EKO Asset Management. As a panelist at the 2013 North American Carbon World conference, Bayon expressed wariness over handing too much power and control to governments:

There are some downsides to that approach from the perspective of private capital, and one of the downsides of that approach is that you are essentially giving tremendous power to these jurisdictions in terms of allocating, measuring, monitoring and control over these credits. If you're a private investor the question then becomes how do you deal with that *government risk*.⁷⁷

Speaking on the same panel, moderated by the VCS Director of Agriculture, Forestry & Other Land Use (AFOLU),⁷⁸ Korchinsky shared his concern, drawing a line between

⁷⁷ North American Carbon World 2013. 16 Apr 2013.

⁷⁸ Toby Janson-Smith moderated the panel. He also leads Conservation International's Forest Carbon Markets Program and previously directed the Climate, Community &

normal market risk that rigorous accounting standards had helped to solve and the abnormal government risk encountered in the regulated market:

We're certainly more than willing to accept market risk. There was no market when we started. That's just about the ultimate risk. We've tried to create a market. We are creating a market, which we've been successful in doing at least at our level. We're used to performance risk. We're used to being held accountable for our own performance and only when we perform as an organization. We're not necessarily being used to being at risk for other people's performance. So one of the challenges when you're trying to get investors involved in a jurisdictional program is now if the ultimate success or failure is at the jurisdictional level...We can succeed but somebody else can fail, and we won't get rewarded for our success. That idea that we are now subject to other people's risk is one of the challenges in attracting private investment.⁷⁹

Having singled out government risk, both Bayon and Korchinsky called for mechanisms to manage it. Bayon noted it was an obstacle but not a “deal killer”, and Korchinsky explained how a Wildlife Works’ 300,000 ha Mai Ndombe REDD+ project in the DRC ensured the two fundamentals for capital investment—“an opportunity to invest” and “an opportunity for return”—through an accounting structure that keeps the government from having direct access to the project’s credits:

Biodiversity Alliance (CCBA).

⁷⁹ North American Carbon World 2013. 16 Apr 2013.

We manage government risk in the countries we are working in. Hands up, who thinks the list of the top ten safest places to invest includes DRC? [Laughter] Okay, just checking. We manage risk because REDD as an international mechanism created a beautiful way for us to manage risk. That beautiful way for us to manage risk with the government with the DRC is that they don't touch our credits. The credits go into an international registry approved by an international standards auditor and are sold internationally and then they get money back from the sale of those credits based on the contract that we have with them. That's how we manage risk with countries like that that aren't on the list of the top ten countries that behave themselves with money. If you go to an environment where all funding happens at the government level, you destroy that opportunity for us to manage risk that way. Now we're at the mercy of them to represent our interests in the direct crediting for the efforts we've been successful with. I used to tell people [who asked], "How on Earth can you invest in the DRC?" And I always say REDD is a beautiful mechanism for managing that risk, and it has historically been true.

What is exceptional about the concept of government risk instead of policy uncertainty is that it turns an uncertainty that can only be vaguely anticipated into a risk that can be actively managed (Voß and Kemp 2006; Leach et al. 2010). Especially telling is the quote's last sentence: "REDD+ is a beautiful mechanism for managing that risk, and it has historically been true", for "historically true" implies that in the future it might be not. The reasoning is that governments might change their REDD+ policies, and thereby

jeopardize capital investment. This is a very important point because it implies that, from the perspective of private investors, governments might do so arbitrarily and therefore illegitimately.

Following Yaron Ezrahi, liberal democracies uphold their legitimacy by wielding coercive state power for the greater public good. Unlike the private sector, this coercive power enables governments to legislate new markets into existence. Thus the term ‘compliance’ or ‘regulated’ markets, could equally be called ‘non-voluntary’ or ‘coercive’ markets. The power of governments to coerce, however, must be grounded in legitimate authority, which, by definition, the governed cannot perceive to be arbitrary. In the current case, the concept of government risk implies that the private sector can (through its technical and financial resources) and should (because of its moral standing as the engine of progress) manage that risk because government policies that undercut the market are capricious and illegitimate since the market can provide for the public good better than the government itself. The argument carries the paradoxical implication that the private sector is both the governed and the governor, which is made possible by the promise that the market will deliver public goods both to local communities and the globe as a whole. In practice, however, the imperatives of finance to reduce capital risk take precedence over other concerns and even undercut government legitimacy. The US government’s issuance of political risk insurance to Terra Global’s Oddar Meanchey REDD+ project in Cambodia clarifies this point.

III.2.3. Insuring Against Political Risk in Cambodia

Terra Global orchestrated the Oddar Meanchey REDD+ project, the first in Cambodia, in partnership with country's Forestry Administration and the Cambodian office of a global non-profit organization that works on behalf of poor and marginalized communities called Pact, and with additional support from the Danish International Development Agency, Clinton Climate Initiative, Rockefeller Foundation, and John D. and Catherine T. MacArthur Foundation. The project encompasses 58 villages in the northwestern province of Oddar Meanchey, a region devastated under the Khmer Rouge, where the regime held out until the late 1990s by selling timber to dealers across the border in Thailand. High rates of deforestation persisted through the 2000s, making its forests the most threatened in the country.⁸⁰ In 2005, the London-based watchdog Global Witness was kicked out of the country over a report indicting the country's timber trade. In 2007, Global Witness reported ties between illegal timber extraction and inside dealings among high-ranking government officials, army officers, and businessmen, an allegation the government denied.

At a signing ceremony held two years later in the provincial capital, Samraong, project partners pledged to develop and market credits from the project to "provide maximum benefit to local communities that participate in project activities".⁸¹ The project received the Prime Minister's backing, and Forest Administration Director Ty Sokhun reported to *The Cambodia Daily* that at least half of the profit from the sale of

⁸⁰ The deforestation rate of 2.1 percent was measured from 2002-2006. See Poffenberger et al. 2013.

⁸¹ Terra Global Press Release. 'Cambodia Signs Avoided Deforestation Carbon Agreements for Voluntary Carbon Standard Project.' 23 Jun 2009. available at <http://www.terraglobalcapital.com/sites/default/files/News24June2009.pdf>

carbon credits would be dedicated to local communities to better their living standards and preserve the forest.⁸² The saffron-clad leader of the region's Buddhist Monk's Association voiced the monks' support, who would take an active role in the effort. One monk later remarked to *Time Magazine*, "We have had success in protecting this land because we are monks...If they wouldn't stop, I would just take their chain saws and weapons."⁸³

By working with local, provincial, and national authorities to mitigate impacts from mining operations, industrial agriculture, forest fires, commercial and illegal logging, military settlements, and local community conflicts, the project seeks to save Oddar Meanchey's forests, reducing poverty among 10,000 households and keeping 7.1 million tons CO₂ from entering the atmosphere over the course of 30 years (Figure 5, Table 4).⁸⁴

⁸² The Cambodia Daily. 'Nine Communities To Begin Selling Carbon Credits.' 4 May 2009. available at <https://www.cambodiadaily.com/archives/nine-communities-to-begin-selling-carbon%E2%80%88credits-63372/>

⁸³ Time Magazine. 'Battle of the Jungle.' 20 Jun 2011. available at <http://content.time.com/time/magazine/article/0,9171,2076597,00.html>

⁸⁴ Poffenberger, M., De Gryze, S., Durschinger, L. January, 2009. Designing a Collaborative REDD Project: A Case Study from the Oddar Meanchey Province, Cambodia. available at: <http://www.terraglobalcapital.com/news/designing-collaborative-redd-project-case-study-oddar-meanchey-province-cambodia>

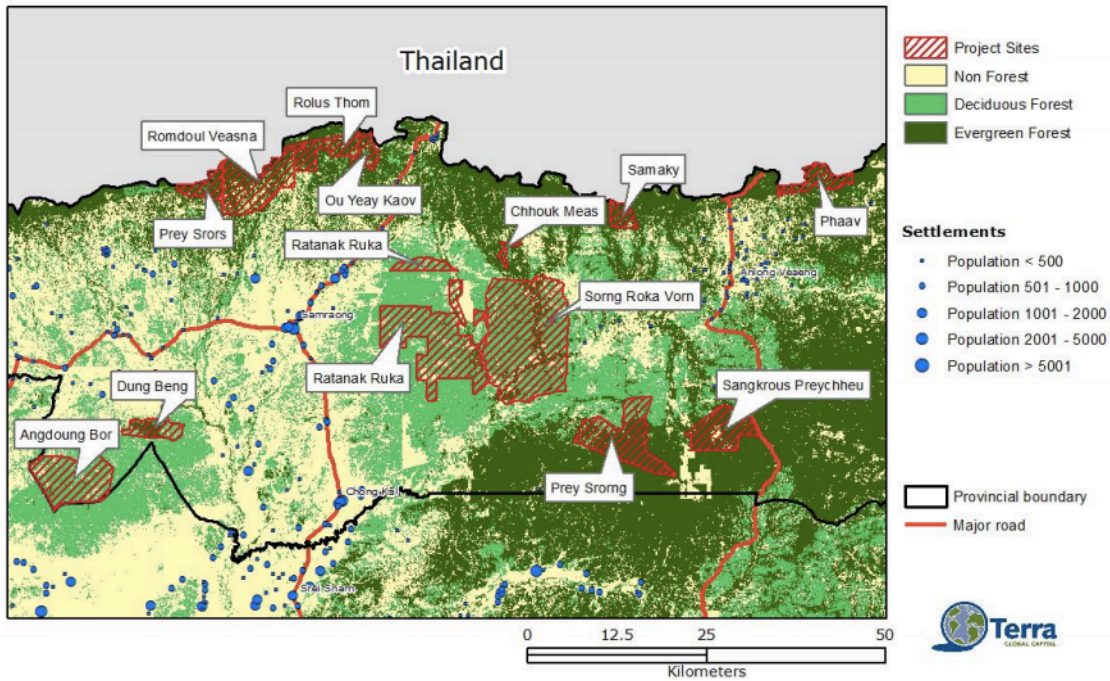


Figure 5. Map of Oddar Meanchey with Community Forestry Sites (Terra Global 2010).

Driver of Deforestation	1. Reinforcing land-tenure	2. Land-use plans	3. Forest Protection	4. ANR	5. Fuel-efficient Stoves	6. Livestock protection from mosquitoes	7. Agricultural Intensification	8. Water Resource Development Projects	9. NTFP Development	10. Fire Prevention
1. Forest clearing for land sales	●									
2. Conversion to cropland	●	●		●			●		●	
3. Conversion to settlements	●	●								
4. Fuelwood gathering			●		●	●				
5. Forest fires induced to clear the forest understory		●	●				●			●
6. Forest fires induced by hunters			●							●
7. Illegal logging for commercial on-sale			●							
8. Timber harvesting for local use		●	●	●						
9. Large economic land concessions	●									
10. Timber concessions	●									

Table 4. Summary of Oddar Meanchey Project Activities and Targeted Deforestation Activities (Terra Global 2010).

What set Terra Global's Oddar Meanchey project apart from other REDD+ projects was its status as the first carbon project ever to receive 'political risk insurance' from the U.S. Overseas Private Investment Corporation (OPIC) and first global insurance of any sort to be issued for REDD+. OPIC issued the US\$900,000 contract in 2011 as insurance for project investors.

It was an unusual move from OPIC. The development finance agency began as an offshoot of the US Agency for International Development in 1972. Under its mandate in the U.S. Foreign Assistance Act, the agency is required to base its financing decisions on demonstrable development benefits. Many of the expected benefits are typical for development projects OPIC supports—community forest patrols, sustainable farming systems, agricultural intensification, efficient cookstoves, stronger and clearer land tenure. A history of political corruption and violent conflict in the region also make the project a likely candidate for OPIC's political risk insurance. The agency describes its criteria for designating political risk as follows:

Investing in emerging markets can be unpredictable, even for the most sophisticated investors. While developing markets can offer great opportunity, they can also present a variety of political risks beyond an investor's control.

Among them:

- War, civil strife, coups and other acts of politically-motivated violence including terrorism

- Expropriation, including abrogation, repudiation and/or impairment of contract and other improper host government interference
- Restrictions on the conversion and transfer of local-currency earnings.⁸⁵

In regard to Oddar Meanchey, Durschinger put the problem thus:

The value of having political risk insurance as a mechanism to reduce investor's risk cannot be overstated in this emerging sector...Expropriation and political violence insurance lowers the risk of investing in REDD host countries, improving the investment profile for private capital investments in the sector.⁸⁶

OPIC's project description offers further details on what constitutes political risk and how it aims to reduce it:

Challenge: Protect investor in a REDD project from unforeseen political changes that could put investment at risk.

Solution: A new OPIC insurance product will protect investors in a REDD project from political risks such as changes in regulations, political violence and improper government interference.⁸⁷

⁸⁵ OPIC website. <http://www.opic.gov/what-we-offer/political-risk-insurance>

⁸⁶ OPIC. OPIC Signs First Insurance Contract for REDD Carbon Reduction Project, 9 Nov 2011. available at <http://www.opic.gov/press-releases/2011/opic-signs-first-insurance-contract-redd-carbon-reduction-project>

⁸⁷ OPIC Terra Global project description. available at

Here, OPIC's political risk insurance adds to war and civil strife precisely the kind of government risk Bayon and Korchinsky describe above. In a logic reminiscent of controversial provisions in the Trans-Pacific Partnership (TPP) that would allow corporations to sue governments over social or environmental regulations over potential financial damages, the risk is that Cambodian authorities will leave investors stranded by pursuing policies that make REDD offsets worthless. Durschinger again:

Given the long-term nature of our investment, we believe it is prudent to reduce our exposure to future changes in national and local governments and laws by executing this insurance policy.⁸⁸

The implications of OPIC's interpretation of policy change as a risk worthy of insurance is not lost on critics of the project. In a paper titled 'Precedent-Setting Insurance REDD Project in Cambodia Raises Concerns', three environmental justice NGOs—Pacific Environment, FERN, and Focus on the Global South—contest that such insurance puts the interest of investors over that of the government and local communities:

Perversely, OPIC's political risk insurance may protect against actions that the Cambodian Government may take to defend its own interests in the event that the project fails to deliver promised benefits. Moreover, OPIC's political risk insurance is designed to protect project investors, and not necessarily local

<http://www.opic.gov/projects/terraglobal>

⁸⁸ OPIC. OPIC Signs First Insurance Contract for REDD Carbon Reduction Project, 9 Nov 2011. available at <http://www.opic.gov/press-releases/2011/opic-signs-first-insurance-contract-redd-carbon-reduction-project>

communities, in the event that the covered political risks manifest themselves. In fact, local communities residing around the forests—whose forest protection efforts have made the REDD project possible—seem to be the last in line for receiving project benefits, making decisions about the project, and protection against market and political risks.⁸⁹

OPIC provided no equivalent insurance for local communities or the project's Cambodian partners if the project failed to deliver its promised benefits. Nor is there any indication that in the case of a payout Terra Global would be required to pass on its payments to other parties. One potential consequence is split incentives among project partners. Another is an incentive for the U.S. Government to pressure the Cambodian Government to avoid policies that would trigger a payout, even if those policies were in service of Cambodia's citizens or its international legal obligations under the UNFCCC.

III.2.4. Checks and Balances in Integrated REDD Offsets Program

OPIC and Terra Global were not concerned over just any regulations but over one REDD+ policy proposal in particular. An OPIC press release specifically targets 'nesting regulations' as the risky policy in question:

One particular concern among investors in REDD projects is the possibility that additional regulations, known as 'nesting regulations,' will be imposed in the

⁸⁹ Pacific Environment, FERN, and Focus on the Global South. 2012. 'Precedent-Setting Insurance REDD Project in Cambodia Raises Concerns'. available at <http://www.redd-monitor.org/wp-content/uploads/2012/06/OPIC-Risk-Insurance-REDD-Cambodia.pdf>

future, thus changing the way that REDD targets are measured and preventing existing projects from earning carbon credits.

Recall the previous chapter's discussion of the concept of nested-REDD+ and its origins in the work of two carbon market consultants, Lucio Pedroni of the Tropical Agricultural Research and Higher Education Center (CATIE) and Charlotte Streck of Climate Focus. These advisers, who would later join Durschinger as VCS REDD advisers, crafted the proposal as a way to integrate avoided deforestation projects into national-level discussions in the UNFCCC. Under UNFCCC rules, however, there was still no assurance that projects would escape the risk that governments might adopt policies or accounting systems that, in Korchinsky's words, might take control of "our credits".

OPIIC's political risk insurance was one mechanism to mitigate capital risk. Other carbon offset projects, including one to reforest degraded pasture on the Atlantic coast of Nicaragua with native bamboo, subsequently adopted similar insurance plans, but project developers still felt the need for more durable measures.⁹⁰ One tactic Terra Global pursued was to tweak the proposal for nested REDD+ in a way that would allay its concerns. In effect, the proposal called for a certain kind of state to support the market project proponents were trying to build.

Like Streck and Pedroni's earlier idea, Terra Global's 'Integrated REDD Offset Program (IREDD) for Nested Projects Under Jurisdictional Accounting' sought to harmonize projects within a broader national or state level framework. Described as a

⁹⁰ Ecosystem Marketplace. 'How Forest Carbon Projects Protect Themselves From Political Risk'. 27 Aug 2013. available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=9916

“nested REDD’ blueprint”, the proposal is remarkable for the lengths it goes to protect investments from government appropriation.⁹¹ In doing so, it paints a stark contrast between the rightful place of the market and the state, a contrast that ultimately contributed to its failure to become the blueprint it was intended to be.

Under the proposal, projects would have exclusive rights to all carbon credits generated within a jurisdiction, based on a peculiar combination of empirical and normative statements about causality and responsibility. IREDD is a system where:

- (1) credits can only be generated from formally registered project areas,
- (2) incentives are built-in to maximize the formally registered project area within a given jurisdiction, and
- (3) funding mechanisms are in place to support government programs and policies that promote reductions in deforestation but have no direct and causal relation with empirically observed emission reductions.

Governments would be ineligible to claim carbon credits for jurisdiction-wide reductions on the premise that a “causal relationship does not *necessarily* exist [italics added]” between emission reductions and government policies and programs like improved land tenure, agricultural subsidy reform, or stronger enforcement. On the other hand, it implies

⁹¹ Carbon Positive. ‘Terra Global offers ‘nested REDD’ blueprint’. 24 Sep 2010. available at <http://forestindustries.eu/content/terra-global-offers-%E2%80%98nested-redd%E2%80%99-blueprint>

that such policies and programs necessarily have no effect on reductions in project areas, which assume full responsibility for all reductions within their boundaries. One of the consequences of this arrangement would be to incentivize projects to cover a region's forests in their entirety, from tip to toe, and the political and economic conditions for this to happen. That is not to say that IREDD leaves no role for non-market tools for conservation; it offers a number of non-market examples: political pressure from international donors, a domestic political culture that values its forests, concessional funding, and development assistance. It denies that any of these tools of the state, though, could be causally linked to forest conservation and therefore market payments for that conservation.

What is noteworthy is the antagonism the proposal poses between the market and the state, invoking bare political terms like “checks and balances” and a “balance of power”:

These outcomes center on maintaining the balance between the power of Jurisdictional Governments and project proponents, fostering the role of markets, and safeguarding land tenure and carbon rights.

And elsewhere:

...rules must contain careful checks and balances so that the roles, rights and responsibilities of all stakeholders are clarified and in balance.

IREDD is designed to act as a kind of accountant's constitution to dispense the basic rights and responsibilities of a transnational community of unlike actors, where, as a political community, the potential for conflict constantly looms. The market, on the other hand, is cast as an apolitical domain, where clear lines can be seen running causally between rational economic agents and carbon savings they have been incentivized to produce in a neatly delineated project area. Based on what IREDD needs to work, it even offers support for the wholesale decentralization of the fiscal, administrative, and political authority, which it defines as:

(1) transferring the power of selecting political leadership and representatives from central governments to local governments, and

(2) transferring the power and authority for making socio-politicoeconomic [sic] decisions from central governments to local governments and communities

This is perhaps not surprising given that the proposal came out of a group that thought it necessary to take out an insurance policy against its government partners. But as a tactic to grow the voluntary market to fit the shoes of a full-fledged regulated one, the IREDD proposal and political risk insurance gained limited traction.

IV. Conclusion

This chapter has continued to complicate the dominant narrative around REDD+ by discussing the emergence of calculative capabilities for REDD+ in the voluntary carbon

market. In doing so, it also complicates institutionalist findings that private expertise emerges in anticipation of demand from public policymakers (in the current study understood as the need for private expertise to supplement global law-making). The case studies in this chapter illustrate how private expertise for REDD+ grew out of the pre-existing capabilities and demands of diverse private actors.

The chapter underscores the close ties between the consolidation of REDD+ standards and the emergence of a transitional network of private actors, drawn from three broad groups: standard-setting organizations, project developers, and large donors and financial investors. The cases describe the entwined production of two kinds of civil regulations—for calculating and owning carbon credits. The chapter finds that one of the key objectives of standard-setters (and related conservation groups) was to consolidate a transnational network of experts and expertise in order to bring project developers and financiers into the voluntary carbon market. The chapter therefore argues that an account of the emergence of private networks and expertise must consider not only the demand for knowledge by public actors but the demand from private actors as well. This requires: 1) distinguishing demand for civil regulations from public and private actors, 2) differentiating between the demands of different private actors, 3) examining how demand shapes the content of knowledge, and 4) comparing the content of civil regulations with the content of the knowledge needed to implement public policy.

The next three chapters take up the fourth point in California and Chiapas. Although public and private actors alike hoped that a global compliance market would soon be in the cards, their immediate goal was to consolidate the credible third-party standards needed to scale-up the carbon market. By way of demonstration, the calculative

capabilities nursed in the voluntary market would shape the regulated market yet-to-be. The demands of regulators and lawmakers, however, are not the same, raising questions about the configuration of markets and states, alongside territory, authority, and rights.

CHAPTER 4

CARBON TERRITORY: RISK, SCALE, AND FINANCE IN

JURISDICTIONAL VS. PROJECT-BASED REDD+

I. Introduction

Hundreds of initiatives around the world are devising Monitoring, Reporting, and Verification (MRV) systems for REDD+. These encompass an array of technical and administrative practices, including measurement protocols, verification and validation standards, remote-sensing technologies, greenhouse gas compliance systems, social and environmental safeguards, forest monitoring systems, deforestation baselines, and emission reference levels. Among these many initiatives are global reporting protocols in the UNFCCC, as well as national capacity-building programs in dozens of tropical countries funded with hundreds of millions of dollars from the World Bank Forest Carbon Partnership and UN-REDD Programme. At the same time, they include the great many private sector projects scattered across three continents that are devising their own carbon accounting standards or adopting the verification and validation procedures of third-party certifiers like the VCS.

Section II provides an overview of California's cap-and-trade program and the state's interest in REDD+. The section describes the MOU with Chiapas and related REDD+ advisory process. Section III theorizes jurisdictional REDD+ in terms of carbon territory, building from the idea that territory itself is a political technology itself that must be understood in through technical and legal practice. Section IV then contrasts the territorial implications of jurisdictional REDD+ from project-based REDD+, stressing the uneasy affiliation of the two.

II. Overview of Carbon Offsets Regulations in California

II.1. California's Cap-and-Trade Program

California's Cap-and-Trade program launched in January 2012. Each year, the cap shrinks by 2-3 percent to deliver 15-20 percent of the total emission cuts through 2020 mandated under the Global Warming Solutions Act of 2006 (AB32). Some 600 capped installations and 350 businesses covering about 85 percent of the state's emissions are required to surrender one California Carbon Allowance (CCA)—granted from the state or purchased on the open market or in quarterly auctions—for every ton of carbon dioxide (GtCO₂e) emitted per year.⁹² Alternatively, these 'covered sources' may buy compliance-grade offset credits from an uncapped source to cover a portion of its compliance obligation from one of five project types in the U.S.: U.S. Forests Projects, Urban Forest Projects, Livestock Manure Projects, Ozone Depleting Substances, and Methane Mine Capture Projects.⁹³

In addition to domestic, project-based offsets, ARB's final regulation order for Cap-and-Trade program, issued in October 2011, singles out REDD for consideration as a potential source of international, sector-based offsets,⁹⁴ defined as emission reductions across an entire economic sector in a developing country. The role for REDD+ offsets would be limited. Sector-based offsets could comprise up to 2 percent of an entity's

⁹² Allowances, together with offsets, are the two kinds of 'compliance instruments' eligible to meet emissions from covered sources.

⁹³ ARB Compliance Offset Program website. accessed 11 April 2015: <http://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm>; Offsets can be of two forms: California Carbon Offsets (CCOs), issued by ARB, and Climate Reserve Tonnes (CRTs), issued by CAR.

⁹⁴ Cal. Code Regs. tit. 17, § 95993. Available at: <http://www.arb.ca.gov/cc/capandtrade/finalregorder.pdf>

compliance obligation in the first and second compliance periods (2015-2017)⁹⁵ and up to 4 percent in the third (2018-2020).⁹⁶

Cost-containment was a major driver of ARB's interest in domestic and international offsets alike (Leuders et al. 2014). Early estimates saw a potential shortage of offsets yielding a price surge to \$60 per ton, promoting regulators to double the upper limit of offsets an entity could use to meet its compliance obligation from 4 to 8 percent. More recent estimates set that figure closer to \$15 per ton, easing concerns over a shortage in the near-term.⁹⁷ Nonetheless, REDD+ offset prices of \$2-9 per ton in the voluntary market compare favorably with an allowance price of around \$12 and average just half of the \$10 price floor set by ARB (Leuders et al. 2014)⁹⁸ and could become much more important if the cap-and-trade program is extended beyond 2020 to meet an ambitious executive order issued by Governor Jerry Brown to bring the state's emissions 40% under 1990 levels by 2030.

By early 2015, California's compliance offset program admitted 110 projects accounting for 18.8 million⁹⁹ of the 80-120 million total offset credits estimated for 2012-2020. Yet none were from REDD or international, sector-based credits of any kind. For

⁹⁵ Transcription of American Carbon Registry transcription of ACR webinar - Update on Key Elements of California's Compliance Market. accessed on 11 April 2015 at: <http://americancarbonregistry.org/news-events/news/news-files/Update%20on%20the%20Key%20Elements%20of%20Californias%20Compliance%20Carbon%20Offset%20Market%20-%20webinar%20transcript.pdf/view>

⁹⁶ California Code of Regulations § 95854

⁹⁷ Point Carbon. (2013). New California Emissions Model and Revised WCI Price Forecast.

⁹⁸ Leuders et al. (2014) derive this comparison, citing: Maria Kolos and Ashley Lawson. (2014). 'What determines the fair price for REDD credits?'. Point Carbon; and California Carbon Dashboard, accessed 25 June 2014 at <http://carbodash.org>

⁹⁹ Argus Media. 'California issues 608,000 carbon offset credits'. 9 April 2015. available at: <http://www.argusmedia.com/News/Article?id=1020605>

that to happen, additional ARB rulemaking and public review would have to occur, and final approval by the Governor would have to “determine that the linkage partner has adopted a greenhouse gas reduction program that is at least as stringent as AB 32; that the linkage agreement contains certain enforcement measures; and that the linkage will not submit California to significant liability for any failure associated with the linkage” (Leuders et al. 2014).¹⁰⁰

II.2. The MOU

REDD+ took one step closer to entering a compliance market for the first time in November 2010 at the third Governors’ Global Climate Summit in Davis, California, when California, Chiapas, and Acre signed MOUs to work together on technical, legal, and institutional design issues for linking California’s cap-and-trade program with REDD+ programs in its two tropical partners.¹⁰¹ The agreement calls for the partners to begin a process to develop a “state to state sectoral REDD linkage recommendation”, in

¹⁰⁰ Cal. Gov’t. Code § 12894(f)

¹⁰¹ The memorandum’s key text, Article 2, is the only text outside of the preamble specifying the form of environmental management in question. It indicates the states will coordinate and cooperate on “environmental management, scientific and technical investigation, and capacity building”, expressly on:

a. Reducing greenhouse gas emissions from deforestation and land degradation - otherwise known as "REDD" - and sequestration of additional carbon through the restoration and reforestation of degraded lands and forests, and through improved forest management practices.

b. Developing recommendations together to ensure that forest-sector emissions reductions and sequestrations, from activities undertaken at the sub-national level, will be real, additional, quantifiable, permanent, verifiable and enforceable, and capable of being recognized in compliance mechanisms of each party's state.

line with placeholder provisions for REDD in the regulation order for California Greenhouse Gas Cap-and-Trade Program issued by ARB.¹⁰² Their immediate intent was to inform the link between California, Acre, and Chiapas, while also seeking to serve the wider goals of facilitating a common platform for sub-national states of the GCF and beyond.

The appeal of carbon markets for REDD+ went far beyond global climate change. For California, the rubric of global climate change presented the opportunity to become a leader abroad, garner political acceptance for its carbon market at home, and foster innovative climate mitigation in sectors unregulated under the cap-and-trade program. Disney, Pacific Gas & Electric, Southern California Edison, and other businesses favored REDD+ offsets as a flexible, least-cost option to meet their compliance cap, while conservationists saw in them the chance to conserve biodiversity and deliver other environmental co-benefits.¹⁰³

For Chiapas and Acre, the link was an engine to reduce poverty, promote sustainable development, and generate revenue. Moreover, it offered a platform to join California on the global stage as an environmental leader, with both Chiapas hosting the GCF Annual Meeting in 2012 and Acre doing the same two years later. Like their US partner, these states made new laws, regulations, institutions, and investments to build the market. Acre's REDD+ program was by far most advanced of any GCF member and among the most sophisticated of such programs the world over. Considered an icon of

¹⁰² CCR, Title 17, Sections 95991-95997

¹⁰³ See, for example, letter of support submitted to ARB by Code REDD. Key Global Stakeholders Sign Letters of Support for REDD+ in California's Climate Policy. 18 July 2013. available at: <http://www.coderedd.org/news/key-global-stakeholders-sign-letters-of-support-for-redd-in-californias-climate-policy/>

progressive environmental politics ever since Chico Mendes united Brazilian rubber tappers in the name of human rights and forest protection in the 1970s, Acre passed landmark legislation in 2011 establishing the State System of Incentives for Environmental Services (SISA), a far-reaching act designed around an explicitly jurisdictional approach devising new forms of public-private partnerships to transform that state's extractive industries towards sustainable, low-carbon development.

Chiapas was a less likely candidate. Its turbulent past of revolution and civil unrest culminating in the Zapatista Rebellion in 1994 remained unresolved, and its legal, technical, and institutional infrastructure for REDD+ lagged that of its Brazilian counterpart. Nevertheless, the highest state offices in Chiapas and California endorsed the plan to build a common REDD+ market. Chiapas had elevated efforts to reduce deforestation with its 2009 passage of the state's Climate Change Action Program (PACCCH). California, meanwhile, sought to strengthen political and economic ties with Mexico, its largest international trading partner. Professional connections between the two administrations and Chiapas' status as a GCF member sealed the partnership.¹⁰⁴

II.3. The ROW

Exactly how these links were to be forged was and remains an open question, for never before or since have sub-national governments from the developed and developing worlds attempted to forge a cross-border carbon market. To this end the, the MOU called for the creation of a sub-national REDD Offset Working Group (ROW), tasked with developing recommendations to ensure such reductions are “real, additional, quantifiable,

¹⁰⁴ As noted in separate personal interviews.

permanent, verifiable and enforceable, and capable of being recognized in compliance mechanisms in each state.” The 11-member advisory committee first met in February 2011, with volunteers recruited from the GCF, CAR, Stanford University, Ford Foundation, and several conservation groups. The panel also included observers from key agencies in each of the partner states: California’s ARB, Chiapas’ Secretary of Environment, Housing, and Natural History (SEMAHN), and Acre’s Institute of Climate Change and Regulation of Environmental Services (IMC).¹⁰⁵

After two years of internal discussions, in January 2013 the group released ‘The ROW Report: Recommendations to Conserve Tropical Rainforests, Protect Local Communities and Reduce State-Wide Greenhouse Gas Emissions’. The report centered on three questions:

¹⁰⁵ ROW Participants:

- » Daniel Nepstad, International Program Director, Amazon Institute of Environmental Research
- » Derik Broekhoff, Vice President for Policy, Climate Action Reserve
- » Greg P. Asner, Professor of Geological and Environmental Sciences, Stanford University; Scientist at Carnegie Institution’s Department of Global Ecology
- » Ludovino Lopes, Consultant to the Secretary of Environment for the State of Acre in Brazil
- » Michelle Passero, Senior Climate Policy Advisor, The Nature Conservancy
- » Peter Riggs, Independent Consultant, formerly of Ford Foundation
- » Rosa Maria Vidal, Director, Pronatura Sur, Chiapas, Mexico
- » Steve Schwartzman, Director for Tropical Forest Policy, Environmental Defense Fund
- » Toby Janson-Smith, Senior Director of Forest Carbon Markets, Conservation International
- » Tony Brunello (Facilitator), Green Technology Leadership Group
- » William Boyd, Associate Professor of Law, University of Colorado Law School, Colorado; Senior Advisor and Project Lead: Governors’ Climate and Forests Task Force

(1) what legal and institutional mechanisms are required to enable California to recognize international REDD-based emission offsets for compliance purposes;

(2) what are the key policy considerations a sectoral REDD program should address to achieve the level of performance needed for California to recognize the REDD-based offsets for compliance purposes; and

(3) what should be the bases for judging the performance of the states in reducing carbon removals from forests?

One of the most central (and contentious) topics in ROW's report was MRV systems for jurisdictional REDD+. The original impetus for a jurisdictional approach came from California regulators. (The State Legislature makes no mention of REDD+ in AB32; Governor Schwarzenegger only brokered the MOU after ARB had considered the proposal.) Measuring and circulating carbon value at the level of the political jurisdiction was a means to overcome the technical uncertainties that plagued project-level approaches. This argument, first presented at the national level in Chapter 2, brought forth new territorial implications at the sub-national level, as the technical recommendations spilled over into direct administrative, political, and economic questions about how and where carbon value resides in the landscape and who can lay claim to it (civic, public, sovereign, private).

The next two sections theorize MRV systems as a calculative capability, highlight the political implications of linking MRV systems to political jurisdictions, and inquire into why those implications were downplayed in the REDD+ design.

III. Theorizing Carbon Territory

III.1. MRV Systems as a Calculative Capability

Whether as planned in the REDD+ Rulebook, or practiced in the voluntary carbon market, MRV systems rely heavily on civil regulations—those rules and practices that non-state actors devise and state or non-state actors willingly abide (as described in Chapter 3). Without the calculative capabilities such civil regulations afford, the prospects for market-based REDD+ would rapidly recede. Consensus-based global law-making proceeds more slowly than civil regulations, and few governments possess the technical monitoring and verification capabilities that the well-heeled private industry has honed over the span of two decades. Whether authorized in the letter of public law or de facto rule of private use, civil regulations are indispensable to the carbon trade.

Observers accordingly register no essential distinction between civil regulations employed in compliance markets or voluntary ones. Carbon is carbon, and no matter the public or private motive, the goal of calculation is the same: accurate and efficient emission cuts.

This view, I argue, is misplaced, and not for the reason carbon markets' many critics most often give. Critics charge that accurate carbon tallies fall victim to conflicting interests.¹⁰⁶ The conflict, they say, stems from public lawmakers' need for instrumental

¹⁰⁶ see, for example, Amy Miller's feature-length documentary, 'The Carbon Rush'.

credibility to justify their rule, and private standard-setters' desire to gain credibility by dint of public imprimatur. I bracket the question of accuracy. (Here, I neither dispute nor affirm the charge but simply note it sidesteps serious inquiry into the effect of long-standing institutional pressures to—in principle if not always in practice—improve the accuracy of knowledge for decision-making over time.)

Here, I am interested in more fundamental questions about the goals of calculation itself, which exceed (though do not negate or ignore) concerns over accuracy or institutional learning. This becomes apparent when we consider MRV systems and other calculative capabilities to be political technologies—a concept I discuss next.

II.2. Territories vs. Territoria

jurisdiction

n.

1. the right, power, or authority to administer justice by hearing and determining controversies.
2. power; authority; control: to have military jurisdiction over the occupied territories.
3. the extent or range of judicial, law-enforcement, or other authority: a case under the jurisdiction of the local police.
4. the territory over which authority is exercised.

[1250–1300; Middle English *jurediccioun* < Old French *juredicion* < Latin *jūris dictiō* (see *jus, diction*)]¹⁰⁷

<http://thecarbonrush.net/>

¹⁰⁷ <http://www.thefreedictionary.com/jurisdiction>

When civil regulations unite buyers and sellers, they make the market. When civil regulations become incorporated into the body of public law, they make the state. What then do civil regulations do when adopted in the union of public and private spheres?

The short answer gives a lead but does not suffice. To think about how *a* market makes *a* state, and a state a market, is not a new ambition. But to think about how the very meaning of markets and states arises together is nearly so. In regard to carbon markets and global governance, the vocabulary to do so scarcely exists. Without the words to speak about the entwined meaning of global calculation and law, some of the most pressing constitutional shifts underway today recede into a pall of unintelligibility.

Fortunately, we do not need to venture further than “Jurisdictional” REDD+ to find a starting point. “Juris” signifies rule, and jurisdiction very often denotes the rule over political territory. In his novel genealogical study, *The Birth of Territory* (2013), Stuart Elden finds that the modern sense of jurisdiction—as that exclusive authority a sovereign exercises over area—arose relatively recently, with the fashioning of the modern state. Elden stresses the poverty of understanding about how territories are made. The term shares the political-economic features of land, as well as the political-strategic ones with terrain. Yet, neither the terms alone or together, he argues, suffice because they leave out critical questions about how territories are made. To do this requires understanding territory as a political technology (i.e. as something that shapes authority, citizenship, and other basics of political order) wed closely to technical and legal capabilities (in the language here), as well as economics and geopolitical statecraft.

This is striking in light of the current discussion for reasons that go beyond the semantics of jurisdiction and territory—most notably the suggestion that jurisdictional

REDD+ might fruitfully be conceived of as a political technology for re-making national configurations of territory, authority, and rights into novel global assemblages through the extant though partial political authority of sub-national states and governments.

This immediately invokes questions about the capabilities for making global law and global knowledge at the core of the dissertation. With this we gain added resources to more incisively broach the complex constitutional questions introduced in the previous chapters.

To think of jurisdictional REDD+ as a political technology is to think of project-based REDD+ as something else. Eden offers the term *territorium* as a term that was in circulation before the word territory existed, and which only in later became associated with the modern political sense of territory today. In older uses it designates something like private authority over land not necessarily tied to the state, though prior to private and public gained their modern meanings as separate spheres as well.

Therefore I leave *carbon territory* to describe jurisdictional REDD+ (at any level) and propose *carbon territorium* to designate project-based REDD+. Like cartographic and political innovation enabled the modern territory-based state, MRV systems and global laws are carving new spaces of governance today. Only carbon territory though is explicitly linked to the production of (again partial) sovereign political authority. When the nested carbon accounting and ownership is thrown in the mix, the relation of the two becomes more complicated but perhaps more interesting and important as well. This, at least, gives some conceptual purchase to proceed.

IV. Building Capabilities for Carbon Territories

Heeding Elden’s attention to meaning and genealogy, the following sections consider how expert advisers to California and Chiapas conceived of REDD+ based on projects versus jurisdictions. Close attention to meaning is critical because the practices and ideas for REDD+ themselves are in flux. The following cases explore these topics by: 1) reviewing how regulators and ROW experts from different organizations and disciplinary background themselves emphasized projects and jurisdictions in different and sometimes contradictory ways, 2) how regulators and private actors were concerned with different kinds of risk, which, in turn, enabled or ignored the possibility of leveraging very different financial instruments, and 3) how the well-established networks and calculative capability for project-based accounting in the voluntary market, combined with skepticism from REDD+ opponents over any meaningful distinction between project- and sub-national jurisdictional-approaches, contributed to the slow progress political and technical progress on jurisdictional approaches and their poor integration with projects.

IV.1. Interpreting “Jurisdictions” and “Projects”

IV.2.1. Drawing Boundaries

MRV systems like those being developed in Chiapas and Acre were a key focus of the ROW recommendations and of direct relevance to stringency criteria required under California’s climate legislation. In principle, these six criteria—real, additional, quantifiable, permanent, verifiable, and enforceable—are equivalent to those already required for project-based offsets.¹⁰⁸ In practice, however, the application of these criteria

¹⁰⁸ HSC §38562(d)(1) and (2)

to the jurisdictional scale called for entirely new techniques grounded in radically different notions of how to measure and value the carbon stored in tropical forests. Indeed, ARB itself underscores the distinction. The agency, in its Proposed Draft Regulation (PDR), echoes a rationale first heard for nation-based accounting for RED, reasoning that a jurisdictional approach could remedy the technical deficiencies that plagued forest projects in the Clean Development Mechanism:

While the CDM has created a vibrant market for international offsets, its project-based approach has not fostered significant policy changes in developing countries. Further, some questions have been raised about the sustainability and additionality of certain projects and project types.¹⁰⁹

The ROW is careful to distinguish projects and jurisdictional REDD+, detailing the differences between the two and elaborating why, when it came to international offsets, the latter was superior to the former in regard to ARB's criteria:

By defining performance at the level of the entire jurisdiction, the state or provincial government gains a strong incentive and the necessary flexibility to achieve a number of important goals. It can align policies, improve law enforcement, institutionalize stakeholder consultation processes and compliance

¹⁰⁹ ARB PDR Background. available at:
http://www.gcftaskforce.org/resource_library/laws_and_policies

with social and environmental safeguards and strengthen or build new institutions to increase the likelihood of success.¹¹⁰

During the outreach process that followed the January 2013 release of the recommendations, ROW members underscored the difference between jurisdictional approaches and the project-based ones that had come to be seen as the crux of a REDD+ market. As part of its outreach efforts, ROW held three public workshops at major universities in California. Speaking at the first workshop at Stanford University, ROW's Daniel Nepstad—founding President of the Amazon Environmental Research Institute (IPAM), former Senior Scientist at the Woods Hole Research Center, and Chief Program Officer for the Moore Foundation's Environment program—made it clear that jurisdictional REDD+ was a “very different beast” that required a mental shift on behalf of even California regulators:

¹¹⁰ The ROW Report reads: From an environmental perspective, jurisdictional or sectoral approaches to REDD have important advantages over standalone projects. Jurisdictional crediting accounts for potential “leakage” (shifts of deforestation and emissions) from one location to another within a jurisdiction in a way that is not possible at smaller scales. Similarly, aggregating emissions provides greater certainty that reductions achieved are “additional,” as there is greater certainty over the trend in overall deforestation across a large region versus the likely fate of any particular piece of forest. In addition, concerns over the “permanence” of any particular project are diminished when the focus shifts to the aggregate performance in a jurisdiction that is managing its total emissions and that has the ability to enforce liabilities for any reversals. Monitoring and measuring forest carbon at a state or national level offers economies of scale and will reduce per-unit costs. There are also important economies of scale in terms of quantifying and managing risks that will reduce costs. For example, costs will be lower when risks of forest fires can be pooled over large regions, rather than requiring each project to insure against such risks independently.

We all see REDD through a different lens and perspective. Much activity on ground is with REDD projects that have little to do with government. Another type of REDD, which is the kind California has possibly decided to link with is a very different beast....In our initial conversations with some of the representatives of the California Government we realized that this point is not clear. We are really talking about a new type of rural development that is pushing forward the poverty alleviation agenda, it is pushing forward food security, greater yields, greater economic growth as we lower deforestation, degradation, and emissions.

Nepstad had been, alongside fellow ROW member, Steve Schwartzman, Director, Tropical Forest Policy, Environmental Defense Fund, among those advocating for national-level compensated reduction (Chapter 2) that had seeded the idea for RED in the international negotiations in 2005. Schwartzman and Nepstad drew on decades of research and conservation work in the Brazilian Amazon to underscore the difference between project and state-wide approaches and, in particular, stress the authority of governments to enforce contracts and protect rights.

Before Schwartzman became Environmental Defense Fund (EDF)'s Director of Tropical Forest Policy, he was a conservationist and indigenous-rights advocate working in communities in the Brazilian state of Paraná and, in 1986, published with the Sierra Club the provocatively titled book 'Bankrolling Disasters: International Development Banks and the Global Environment'. Trained as an anthropologist, Schwartzman had been a friend and colleague of Chico Mendes, helping to organize two of the iconic activist's trips to the U.S. before his assassination in 1988. In the 1980s, EDF undertook a

major shift from an oppositional, litigious approach to a market-incentive based one, becoming a key force in getting cap-and-trade onto the federal and state-level policy agenda in the U.S.

Schwartzman's view of REDD+ combined EDF's market-based approach with a soft version of the leftist, legalist, union-based style of politics that Mendes and EDF itself had emphasized in the past. He stressed the strength of a jurisdictional market, where governments exercise special authority to enforce contracts and implement policies on behalf of indigenous rights, saying:

Jurisdictions can do things that project developers and NGOs can't....For example, in Brazil, each state is constitutionally responsible for protecting the environment and the rights of Indigenous people. And Brazil's Federal Public Ministry enforces these public interest laws.¹¹¹

In a workshop talk titled 'REDD+ vs. The California Forest Project Protocol', ROW member and CAR Vice President for Policy, Derik Broekoff, explicitly distinguished REDD from forest projects in terms of scale, scope, coverage, and approach. CAR was no stranger to projects: In 2002, the state legislature directed it (then called the California Carbon Action Registry) to develop a protocol to certify forest project offsets in the U.S., which became the Forest Project Protocol (FPP) and subsequent basis for ARB's domestic forest offset protocol in 2011. Broekoff described both REDD and the FPP as

¹¹¹ Kelli Barrett. 'Indigenous People Call For REDD+ Safeguards In California's Carbon Market'. Ecosystem Marketplace. 28 March 2013. available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=9656§ion=news_articles&eod=1

“carbon offset programs of different sorts” that must meet a “common set of criteria” to preserve environmental integrity, be credible, and perform in a cap-and-trade program. He stressed that in an international context, however, that a jurisdictional approach conferred key advantages over a project-based approach to California and its partners.

In regard to the criterion that offsets be ‘real’, jurisdictional REDD offered more tools to deal with the leakage problem—the concern that deforestation deferred in one place would simply shift to another. The reason, he said, was that large-scale programs made it technically easier to account for deforestation across much broader swathes of land, while relieving pressure on the underlying drivers of deforestation, for instance, by intensifying agriculture on already cleared lands. In terms of ‘additionality’, he said that REDD meant that “you don’t have to be concerned with the individual motivations of project developers or individual actors”, instead presenting a more credible and accurate “collective approach” focused on reviewing performance against sectoral trends. On ‘verifiability’ Broekoff contrasted expensive on-the-ground sampling of carbon stocks with the economies of scale, and cheaper offsets, achieved through remote sensing technologies. On ‘permanence’, he said REDD is akin to a cap-and-trade program, describing the Reference Level of emissions as a metric to be ratcheted lower over time. And unlike projects, he stressed that a jurisdictional approach encourages deep policy changes that projects do not, thereby locking in long-term reductions by relieving pressures and removing opportunity costs that might otherwise cause such reductions to be reversed.

Despite the ARB’s doubts about the ability of projects to deliver large-scale emission cuts, nowhere does it imply that international project-based offsets are

incompatible with a jurisdictional approach. In fact, the ARB’s staff report underscores the importance of private sector engagement and indicates that the agency would consider issuing international project-based offsets as a temporary measure to containment costs in the initial phase of its cap-and-trade program.

IV.2.2. Erasing Boundaries

In addition to championing the conceptual case for a jurisdictional approach, the GCF and affiliates conceived and promoted new institutions to link state-issued securities with state-wide emission reductions. Above all, they highlighted Acre’s SISA program, describing the Amazonian state as a “sub-national leader” and “model pioneer in tropical forest protection”. In SISA, they noted, the PES schemes that typify most projects play a lesser role. Instead, the program centers on high-level policies such as ecological zoning, logging sector reform, and a rural property licensing and certification system.¹¹²

The GCF and the ROW were by no means anti projects—indeed the ROW described them as important “laboratories of innovation” and dedicates substantial space to options for including projects in higher-level systems. Yet Acre remained one of the few states to pursue such an approach in earnest. IPAM, the Amazon research group Nepstad founded 1995, voiced a seldom heard caution on the project-centric approach that had dominated the discourse on the REDD+ carbon market. In a paper circulated in the GCF on lessons from Acre, IPAM cautions on an “excessive focus on projects”, saying:

¹¹² IPAM. (2012). ‘Acre State’s Progress Towards Jurisdictional REDD+’. available at: http://www.gcftaskforce.org/documents/acre%27s_progress_towards_jurisdictional_redd.pdf

Most REDD+ programs are still a collection of REDD+ projects that are isolated from the policies and institutions of the state and federal governments. Projects are an important source of innovation and benefit delivery on the ground, and can operate more efficiently sometimes since they do not depend upon government bureaucracies to function. However, emissions reduction across entire jurisdictions is very difficult to achieve with projects alone. Acre is to be commended for developing the framework of its state-wide program before encouraging forest carbon projects.¹¹³

The report cites “a lack of progress in taking advantage of the flexibility that is conferred to states by adopting the jurisdictional approach REDD+”, noting “Acre is an exception to this pattern.” In another paper on financing options titled ‘REDD+ in the Post-Copenhagen World’, Nepstad and co-authors who included ROW’s Schwartzman, Boyd, and facilitator, Tony Brunello, recast the agility and independence of projects as a potential impediment to the flexibility described above:

Projects also have the potential to impede the progress of national and state/provincial-level REDD+ program development for the very reason that they are simpler and quicker to implement. By operating relatively unencumbered from governmental policies and institutions and by moving quickly to establishment of cash payments to forest stakeholders, projects have the potential

¹¹³ IPAM. (2012). ‘Acre State’s Progress Towards Jurisdictional REDD+’. available at: http://www.gcftaskforce.org/documents/acre%27s_progress_towards_jurisdictional_redd.pdf

to draw away from the sector-level program development, policy alignment, and institutional innovation that are necessary for the long-term foundations of REDD+.¹¹⁴

Not all ROW members towed the line, however. ROW's Toby Janson-Smith, director of VCS's Agriculture, Forestry & Other Land Use program, and former lead for Conservation International's Forest Carbon Markets, erased the boundaries between projects and REDD when speaking at prominent venues such as CAR's Navigating the American Carbon World (NACW) Conference:

There's been great progress, at least in the voluntary space.... We've seen over the last five years or so, REDD has really matured in terms of high-quality project development, high-quality carbon accounting frameworks and standards and just good implementation.¹¹⁵

Janson-Smith was responding to a concern that projects would be left out of the future market, also expressed in a 2013 paper by his former employer, Conservation International, on the 'REDD+ Market: Sending out an SOS'.¹¹⁶ The paper sought rapid interventions to rescue the rush of speculative projects that between 2007 and 2010 led to

¹¹⁴ Nepstad et al. (2010). 'REDD+ in the Post-Copenhagen World: Recommendations for Interim Public Finance'. available at:

http://www.whrc.org/resources/essays/pdf/Interim_Finance_Recommendations.pdf

¹¹⁵ Gloria Gonzalez. (2013). 'Could California Make or Break REDD?'. Forest Trends. available at: <http://www.forestcarbonportal.com/news/could-california-make-or-break-redd>

¹¹⁶ Conservation International. (2013). 'REDD+ Market: Sending out an SOS'. available at: <http://www.redd-monitor.org/wp-content/uploads/2013/09/REDD-Market-SOS.pdf>

an oversupply in voluntary market with no compliance market in sight to relieve the pressure. Flooding the market with cheap jurisdictional offsets posed a threat, and the paper's sole reference to the GCF casts it in these terms. Whereas IPAM called for interim public finance to prioritize flexible state-level programs over local projects, Conservation International pressed for public money to keep private projects afloat, and it did so by flipping IPAM's argument on its head:

Although jurisdictional approaches to REDD+ remain a key objective in the development of longterm strategies to address the drivers of deforestation, site-based projects are an important stepping stone to achieving this goal. Projects provide a tangible demonstration of the approaches and mechanisms that can be realistically adopted to effectively reduce deforestation on the ground, providing a platform for success that can be gradually scaled up to encompass the adoption of strategies that operate at a broader socioeconomic and political level. Vital lessons can be learned from these initiatives and much progress can be made in pursuing the transition towards jurisdictional REDD+ frameworks by ensuring that project-level activities are able to thrive, thereby demonstrating their credibility as effective contributors in the safeguarding of a country's forests.

Like IPAM, Conservation International promoted new institutional models to shape jurisdictional approaches towards their desired ends. Yet, they went much further, working closely with the VCS and other project proponents to devise and accredit projects under an entirely new VCS framework for *Jurisdictional and Nested REDD+*

(JNR). The VCS announced the framework in December 2010, around the same time California, Acre, and Chiapas signed their MOU, and released it in October 2012, a few months before the ROW issued its draft recommendations.

Naomi Swickard, who, like Janson-Smith, worked at CI before joining the VCS, explained that their major motivation was to make sure that projects pioneered in the voluntary market did not get left out of the jurisdictional approaches being developed by California, the World Bank, and the UNFCCC:¹¹⁷

A lot of our reason for getting into this initially was to ensure there was a pathway for projects to be integrated into these systems that we saw emerging at higher levels.¹¹⁸

With JNR, the VCS positioned itself for crediting project, jurisdictions, or any nested combination of the two.

Swickard served on the VCS JNR secretariat alongside ROW's Toby Janson-Smith. The two other secretariat members, Charlotte Streck and Robert O'Sullivan, came from VCS's partner, Climate Focus. The reader will recall from Chapter 2 Streck's earlier work with CATIE's Lucio Pedroni on 'nested' REDD+. Pedroni's nesting concept was

¹¹⁷ Many national and sub-national governments sought to adopt their core carbon accounting framework on the VCS JNR because it was compatible with a number of sources of demand and finance, including not only California but also the UNFCCC and World Bank Forest Carbon Partnership Facility (FCPF) Carbon Fund; Winrock International. (2014). A Gap Analysis of the FCPF's Carbon Fund Methodological Framework and the UNFCCC REDD+ Rulebook relative to the VCS Jurisdictional and Nested REDD+ Requirements'. available at: http://www.v-c-s.org/sites/v-c-s.org/files/CF%20VCS%20JNR%20UNFCCC%20Comp%20Analysis_20141204_CLEA%20%282%29.pdf

¹¹⁸ VCS JNR 2012 Requirements Webinar. available at: <http://www.v-c-s.org/JNRI>

central to the JNR framework, and he joined the advisory board alongside representatives from key conservation groups and project developers at the heart of the voluntary market, including Terra Global, Wildlife Works, and EDF. The new committee also reached outside the NGOs and private sector groups on its earlier REDD+ methodology committee (Chapter 3) to include representatives from CAR and national and sub-national governments, including Chiapas and Acre.¹¹⁹

In public, the ROW registered zero internal dissent, and, by all indications, its two-years of deliberations were collegial, “fun” even, and immersed in technical detail. Indeed, the ROW report is fully compatible with the VCS JNR and devotes significant attention to options for nesting as a way to build bridges between projects and jurisdictional programs.

IV.2. Two Models of Risk

The end goal of both project and jurisdictional approaches was the same: the creation of a new tradable asset type. Each was an interchangeable unit in two giant pools: the global biogeochemical cycle that circulated carbon between the forests and atmosphere and the global pool of money that channeled capital to profitable investments. Regulators and their advisors spoke of the need to “build bridges” between these two pools, linking buyers in California’s market and sellers in Chiapas and Acre. To do so, they would need to reduce two kinds of uncertainty: the uncertainty of emission reductions that concerned regulators and the uncertainty of capital investment that worried financiers.

¹¹⁹ Acre became the first jurisdiction to received VCS JNR. VCS JNR pilot programs exist at the sub-national level in Acre and Amazonas in Brazil, and national level in Costa Rica, Peru, Democratic Republic of Congo, Vietnam, and Laos.

To address the former, the ARB devised the criteria laid down in the previous section that would allow offsets from Acre and Chiapas to flow into California. Bringing finance over a bridge south, however, posed an even greater problem. A report prepared by Terra Global for USAID on ‘California Cap-and-Trade and International Forest Carbon Offsets for Institutional Investors’ details five ways investors can gain exposure to the emerging REDD+ market:

- 1) direct investment into offset project development, with financing structured as equity, debt or advance payment for credits;
- 2) direct purchase of offsets from a project developer either via long-term forward purchase agreements or spot transactions, or lending against long-term purchase contracts;
- 3) investment through a fund managed by specialist investment managers investing in a well-diversified portfolio of projects;
- 4) secondary market trading (directly or via a hedge fund), which will in time offer trading opportunities as market liquidity and fundamental price drivers develop; and

5) structured products such as a REDD+ bond, which are new and yet-to-be-issued instruments.¹²⁰

The first three pathways center on projects. Only the fifth pertains to the kinds of offsets expected to issue directly from jurisdiction-wide policies and programs. This is because forest offset projects, backed by hundreds of examples and a market infrastructure born up over the past decade, had shaped the way individuals and institutions thought about offsets. Structured REDD+ products of the kind that might be issued for state-wide programs remained a fiction. As a result, government policies and programs were typically seen as remunerable through public fund-based payments, while private sector projects were most often associated with the sale of offsets in the carbon market.¹²¹

An objective of the GCF and the ROW was to challenge these assumptions and devise techniques and institutions capable of generating economic value not only in a project area but also across an entire political jurisdiction. This entailed an inversion of the usual discourse on risk and scale. During the first ROW workshop, for example, Broekoff noted:

The larger the scale the less risk there is. You may see more frequent events across an entire state-wide jurisdiction, but collectively the risk that you're going

¹²⁰ The report was conducted by the Forest Carbon, Markets and Communities (FCMC) Program, a USAID-funded initiative led by Terra Global. December 2012. ‘‘California Cap-and-Trade and International Forest Carbon Offsets for Institutional Investors’’. available at: http://www.fcmglobal.org/documents/AB32_Report.pdf

¹²¹ Climate Focus and Forest Trends. (2011). ‘Nested Approaches to REDD+ An Overview of Issues and Options’ . available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=8285

to get a reversal so large that emissions go above the reference level. That risk is relatively small. It is much easier to manage across a wider area.

The statement is about reducing the uncertainty of emission reductions by shifting to bigger scales, which, in turn, translates into lower financial risk. As a result, capital risk mitigation is to open the door to risk averse institutional investors able to command pools of capital magnitudes greater than venture capitalists at hitherto mustered for small-scale projects.

The idea that bigger scales are less risky flips project developers' conception of the problem, reflecting two distinct risk paradigms entailing different understandings about uncertainty and causation. As previously discussed in regard to Terra Global's IREDD proposal, developers invoked uncertainty as a reason to *not* issue jurisdictions credits, arguing that it is impossible to attribute avoided deforestation to specific reforms and therefore wrong to allocate ownership of carbon credits to governments for those reductions—the exact opposite rationale jurisdictional proponents gave to encourage government buy-in needed to secure the sweeping policy reforms.

This same skepticism over the role of governments in a REDD+ market continued the tenor established in the voluntary market. Project proponents doubted governments' ability to act quickly enough to avert an impending environmental crisis and cast moral aspersions, with much justification, over the integrity of corrupt, untrustworthy governments whose anti-poor, anti-environmental policies had contributed to make deforestation the cause célèbre. Far from interpreting government turpitude as a reason to stay out of risky, problem-prone regions, they leveraged it into a call for the private

sector to green the state and introduce good governance. And they did so with significant support from Northern countries and large financial institutions, facilitated by technical and administrative measures to mitigate risk to speculative capital investments in local projects, such as political risk insurance and novel forms of carbon accounting. Against this backdrop, California's proposal for a new kind of jurisdictional REDD+ met skepticism from the project developers and conservationists, reinforcing the ROW's unspoken ambiguities around finance, risk, and scale.

IV.3. Tipping the Scales from Jurisdictions towards Nested Projects

IV.3.1. Too Hot to Handle

The ambiguities concealed in the ROW recommendations and broader GCF discourse exposed the partnerships to criticism from environmental groups and social justice advocates critical of the MRV systems thus proposed. Technical critiques attached issues related to political authority and rights to the technical uncertainties the jurisdictional approach set out to redress. Regulators did not convince critics to draw the line between the political jurisdiction and project in the same way as they had themselves, speaking to profound and unresolved civic, cultural, and ethical transformations making such a market entails. The reason, I argue here and in the following two chapters, is partly because of a latent ambiguity in state regulators' relationship to the private sector and the distribution of knowledge, authority, and rights between the two.

The friction between project and jurisdictional approaches, elided within the ROW and VCS, spilled over into the public discourse about REDD+ in California's market. The voluntary market's major research and public relations hub, Forest Trends and its

affiliated project, Ecosystem Marketplace, delivered a media blitz celebrating California as “The great REDD hope”. Their message, however, collapsed the distinction between projects and REDD+ that certain ROW members had painstakingly raised. Media increasingly cast private projects in a moral light as climate champions, while insinuating that governments were leaving pro-active businesses “in the lurch.”¹²² Outlets like Ecosystem Marketplace and Huffington Post aired growing anxieties like those of the CEO of CE2 Carbon Capital, a leading investor in North American carbon offsets, who argued that the legal, technical, and political “complexity of getting international credits of these types into a state-based system is overwhelming”.¹²³ One consultant presaged:

REDD has a zero percent chance of ever getting into California within my kids’ lifetimes...REDD is just very, very politically difficult. It would be nice to have, but it’s just not going to happen.¹²⁴

The ROW’s effort to draw a boundary between projects and REDD+ did little to dislodge the close association between project-based REDD+ on the one hand and national-level fund-based REDD+ on the other. Its celebrity notwithstanding, Acre’s model for a new kind of REDD+ failed to be replicated in other states and provinces. Meanwhile, Chiapas

¹²² Forest Trends. (2013). ‘Key Companies Have Stepped Up on Climate Change. Will Governments Leave Them in The Lurch?’. 7 Oct 2013. available at: http://www.huffingtonpost.com/forest-trends/companies-on-climate-change_b_4058553.html

¹²³ Gloria Gonzalez. ‘International REDD Faces Uphill Battle in California in 2014’. Ecosystem Marketplace. 8 Oct 2013. available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=9988

¹²⁴ Gloria Gonzalez. (2013). ‘Could California Make or Break REDD?’. Forest Trends. available at: <http://www.forestcarbonportal.com/news/could-california-make-or-break-redd>

became roundly criticized as an example of how not to do jurisdictional REDD+.

REDD+ proponents attributed Chiapas' lackluster REDD+ preparations to a changing governorship and unavoidably slow process of building a technical, legal, administrative infrastructure from scratch.

Environmental justice and indigenous rights groups were far harsher, singling out Governor Sabines' signature REDD+ initiative, the Pact for the Respect and Conservation of Mother Earth (PACT), as the poster child for anti-REDD+ activists everywhere. Greenpeace made the biggest splash, and it did so in full agreement with the project proponents that, if a REDD+ market were to pass, it would be built on the backs of local projects. In 2012, Greenpeace transmitted a report across global wires, just REDD+ supporters and detractors alike turned their eyes to the GCF Annual Meeting in Chiapas. 'Outsourcing Hot Air: The Push for Sub-national REDD offsets in California's Carbon Market from Mexico and Beyond' blasted the GCF for being:

...more focused on creating sub-national REDD+ offsets for large industrial polluters in California than on promoting and adopting effective, people-centered forest protection policies among its members. This current preoccupation on sub-national REDD+ offset schemes risks wasting finite resources on a policy mechanism that will not deliver real benefits for the climate, forests or people – and could even make matters worse.¹²⁵

¹²⁵ Greenpeace. (2012). Outsourcing Hot Air: The Push for Sub-national REDD offsets in California's Carbon Market from Mexico and Beyond'. available at: <http://www.greenpeace.org/international/Global/international/publications/forests/2012/REDD/OutsourcingHotAir.pdf>

Like the private sector, anti-REDD+ activists did not buy into the vision for a different kind of REDD+ secured through state and provincial governments. For REDD+ opponents, California's carbon market was just old wine in new bottles. These groups had long fought against market environmentalism of any stripe, most especially carbon offsets, which they saw as irrevocably a matter of the same kind of local projects they had charged with perpetuating social injustices and environmental harm. Greenpeace cited the 'nested approach' as evidence to indict California and wider the GCF of sneak projects through the backdoor through loopholes in UNFCCC rules that allowed interim, sub-national. "The aggregation of projects that have failed individually to deliver real climate benefits", they said, "does not make for sound public policy."

Greenpeace cited a checkered history of six forest carbon projects running from Scolel'Te in 1997 (Chapter 2) to the PACT Sabines began in the Central America's largest rainforest in cooperation with Conservation International in 2011. The group called Chiapas' sub-national experiment "fundamentally flawed" and full of "problems and risks" stemming from social injustices (Chapters 5 and 6) and inaccurate large-scale MRV systems. Ironically, Greenpeace reiterated the skepticism some foresters had expressed:

Although large-scale deforestation can be measured reasonably accurately by satellite and ground-based efforts, monitoring emissions from forests cannot currently be done with a high degree of certainty, and is far and away more difficult (and less certain) than monitoring end-of-pipe fossil fuel emissions.

Citing a preliminary study conducted on reference emission levels in Chiapas, the report said the estimates had an unacceptably high uncertainty level of 44% due to the state's complex topography and mosaic land use. As a consequence, the report argued, the lack of “strong and reliable measures”, “a continuous source of funding”, and “transparent land use planning and monitoring program” nullified any claims to additional, permanent, and real reductions.

Ultimately, a public discourse sedimented around the idea that any REDD+ market would be made up of a great many projects proved impenetrable to GCF's jurisdictional alternative. An exchange between Boyd and an individual from Terra Global at the Annual GCF Meeting underlines the point. At issue was the ability of jurisdictional efforts to attract private finance, with the latter expressing skepticism about the plausibility of governments creating a low-risk environment for private investors. To this Boyd responded that “the label project is almost as misleading as the term REDD+”, suggesting it might be time rethink models for private sector engagement along entirely new lines by crafting channels for private investment directly in jurisdictional programs. Terra Global replied by acknowledging that both scales were important—but missing Boyd's bigger provocation that the lines between projects and jurisdictional programs should be drawn anew.

IV.3.2. Too Cold to Hold

The idea that large-scale REDD programs and local projects are both, in ROW's words, simply carbon offset programs made credible and comparable through a “common set of criteria” obscures the fact that they are high-level principles that, when broken down,

yield very different assumptions about what is being valued and measured, and how one should go about valuing and measuring it. And behind these assumptions lie yet deeper notions about who has the authority, ability, and right to intervene, measure, and claim the value so produced.

As Paul Edwards (in Miller & Edwards 2001) terms them, distinct *epistemic lifestyles*—in this case among the foresters and project developers on the one hand and remote-sensing scientists on the other—play out across the intellectual-organizational setting of each, including the “set of intellectual questions and problems, and the accompanying set of practices, that provide a sense of purpose, achievement, and ambition to a scientist’s work life, as well as the more mundane sense of carrying out those activities necessary to ‘getting the job done.’” In regard to REDD+, I use the term simply to point out the ties between the evidentiary standards a discipline uses to define and settle uncertainty, and the problems that discipline is tasked to address in order to build the carbon market.

The default project orientation revealed itself through the subtlest of slips. Just after hearing Broekoff’s presentation at the first ROW workshop on the differences between projects and REDD, one representative from The Nature Conservancy implied that carbon accounting at the project level could be directly translated to jurisdictions, commenting that ROW’s recommendations take the “rigor” and “lessons learned from project activity and *apply* that at a bigger scale.”¹²⁶

At other times, these differences appear quite consciously. At the Annual GCF Meeting held in Chiapas in 2012, Gregory Asner, a ROW member and Stanford-based

¹²⁶ Comments made at the first ROW workshop on MRV, February 2013.

earth system scientist, argued that the “technology is so far beyond” the “old thinking” of IPCC’s 2006 Greenhouse Gas inventory guidelines for Agriculture, Forestry and Other Land Use that are the basis of international discussions. “Ultimately the things that you think are expensive are inexpensive when brought to scale,” he said contrasting “practicable, reportable, verifiable uncertainties” of 1% possible for 3-5 cents/ha every 5-10 years at the jurisdictional level with the lower uncertainty obtained from US\$2000-4000 per plot per year for 800 field plots in the Amazon. Moreover, Asner (2011) wrote, in a scientific paper titled ‘Painting the World REDD’, the sub-national level is the level where MRV systems can reduce uncertainty the fastest, making the GCF states the ideal to scale to make these systems operational.

Others did not reach the same conclusion. One forester with years of experience working on local conservation projects found it “hard to believe the technology was so advanced” and wanted to follow-up with Asner to learn more. A representative from Terra Global saw MRV systems as presenting “creative opportunities” to integrate projects into jurisdictions but was concerned about private capital risk and, noting a dearth of private sector participation in the room, questioned why governments weren’t putting public money at risk too. Another private sector participant said the jurisdictional approach was fine in theory but warned that “forests will disappear” because governments are “too slow” act.

Wedding skepticism over the technical feasibility of state-wide MRV with concerns about government capacity and trust, many project proponents doubted that REDD+ would ever see the light of day in California. One interviewee—a forester working for a major offset project verification company in California—insinuated that proponents of

jurisdictional MRV were promising more than they could deliver, questioning not only the accuracy of such techniques but the plausibility of operationalizing them in a high-stakes carbon market. For this person, setting rigorous jurisdictional standards meant going through “growing pains” and a long process to establish “replicability”, while in the meantime making it “too easy to game the system” with false claims to real and additional reductions. Some people reported that forest ministries found it too complicated to incorporate site-specific carbon accounting at higher-level.¹²⁷ Some even believed that long-time collaborators like Conservation International “weren’t going to do projects anymore” in favor of a higher-level approach.¹²⁸

Overall, though, these differences were muted. Both sides were in broad agreement about the need for a REDD+ market that to a greater or lesser extent made room for large-scale programs and local projects. Discussions in open meetings held by the ROW and GCF were general enough that the skepticism voiced above never rose to the level of the high-stakes *credibility struggles* Steven Epstein (1996) finds, for instance, in the politically charged research and activism around AIDS. The GCF surely did, however, raise the hackles of certain environmentalists and social justice activists who vehemently opposed carbon markets of any sort. Interestingly, they shared many assumptions with the project developers they opposed, while disbelieving claims that sub-national REDD+ offered an alternative conducive to forest governance reforms they themselves promoted.

¹²⁷ Ecosystem Marketplace Interview with Heru Prasetyu, head of Indonesia’s REDD+ Management Agency. available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10354§ion=news_articles&eod=1

¹²⁸ interview. 10 Feb 2014

V. Conclusion

Two visions for the REDD+ market fit comfortably in the partnership between California and Chiapas. On the surface, each proposed a more or less efficient path to combat deforestation and climate change by creating new kind of tradable environmental asset. As ancillary benefits, both claimed green leadership, biodiversity protection, good governance, and community well-being.

On closer inspection, however, the two visions put forth radically different assumptions about the epistemic and normative guarantors of economic value. Rarely articulated tensions over if and how to calculate carbon value contributed to the inability of the ROW and ARB to convince project proponents and anti-REDD+ activists that jurisdictional REDD+ really was a “very different beast” speaks to the jeopardy global projects face in the light of entrenched discourses and practices. By latching onto the idea for a carbon market being discussed globally and designed in California, the ARB justified its interest in REDD+. But it also bound itself to a much bigger set of beliefs and politics that had trouble seeing, much less accepting, its proposal to create a carbon market where states and provinces, not project developers, were the central economic actors. Thus, the California-Chiapas MOU fell short of its goal to build capabilities—the techniques of globalization—needed to produce new carbon territories and thereby realize its vision for a different kind of market.

CHAPTER 5
CARBON AUTHORITY: THE AUTHORIZATION OF
TRANSNATIONAL PRIVATE EXPERTISE

I. Introduction

On December 8th, 2009, Governor Juan Sabines Guerrero told a hall packed with 700 delegates to COP16 in Cancún that Chiapas was ready for business. The event on *Advancing REDD+: New Pathways and Partnerships* brought Chiapas into the international limelight, alongside the likes of UN Secretary-General Ban Ki-moon, Nobel Peace Prize Laureate Wangari Maathai, and World Bank President Robert Zoellick. Sabines made full use of the stage to announce to the world that his state was preparing to sell millions of carbon credits to California issued from the “best inventory of soil, forest, and jungle” in Mexico.

Two weeks later, Governor Sabines, along with the Secretary of the SEMAHN, Lourdes López Moreno, and the Country Director Mexico of Conservation International, Tatiana Ramos, signed the Pact for the Respect and Conservation of Mother Earth (PACT)—a REDD+ project in the largest remaining rainforest in North America. Photos of the Governor with long-haired Lacandón men clad in traditional white tunics at the signing held in the San Javier municipio of Ocosingo appeared in one of Mexico’s leading newspapers, *La Jornada*. Sabines entrusted the comuneros to take care of “our great lung” in Central and North America for “all of the planet, all of Chiapas, for all of mankind”.¹²⁹ The global press lauded Chiapas’ pioneering spirit, echoed in Sabines’

¹²⁹ *La Jornada*. ‘Suscriben gobierno y comunidades pacto para conservar la Lacandona,’ 23 December 2010. available at:

<http://www.jornada.unam.mx/2010/12/23/politica/012n1pol>

public appearances with Governor Schwarzenegger and Harrison Ford, Vice Chair of Conservation International's Board of Directors (Figure 6). The GCF and ARB took it as the sign of a strong and promising partnership, Chiapas having signed the MOU with California and Acre only the month before.



Figure 6. Governor Sabines and Governor Schwarzenegger

Two years later, however, Chiapas' REDD+ program was hobbling along and looked little closer to joining California's market than it had at the Cancún COP. Amid heated opposition from some environmental and social justice groups at home and abroad, in July 2013, incoming Governor Manuel Velasco Coello canceled Sabines' signature REDD+ project, which had the ignominious fortune of making the top ten list of worst projects put out by Carbon Trade Watch, Indigenous Environmental Network, and several other groups opposed to REDD+.

During the same period, by contrast, California successfully weathered a series of legal, political, and technical challenges to its carbon market. Our predictions alternating between skyrocketing costs and collapsing prices were both proven wrong, as the carbon market rolled out more smoothly than any before. ARB even expanded the types of offsets allowed into the program. But REDD+ offsets were not among them. By and large, California dodged the negative associations plaguing its partner in Chiapas. The media at times portrayed the state as a victim, asking, “Will California fall into the REDD trap?”¹³⁰ REDD+ proponents worried that the state might opt to preserve its green image over the salvation of dwindling forests. Yet even after much public outcry, regulators saw minimal risks to keeping REDD+ on the table, deciding to retain it as a possible future offset option in the *First Update to the Climate Change Scoping Plan* released in February 2014.

California established authority over its carbon market, while Chiapas did not secure the authority it needed to supply credits to that market. Why did this happen? And what does it tell us about the ability of sub-national governments to collaborate on global problems? Many reasons might explain the contrasting fates of California and Chiapas, and their failure to build a common carbon market—a turnover in the Sabines administration, returning Governor Jerry Brown’s Asia-Pacific Pivot, weakening demand for offsets in California, technical difficulties of building a carbon inventory from scratch. Here, I am interested in one that has received little attention to date, which I call ‘carbon authority.’

¹³⁰ Al Jazeera. ‘Will California fall into the REDD trap?’. 7 May 2013. available at: <http://www.aljazeera.com/indepth/opinion/2013/05/20135613232989660.html>

The full discussion will take two chapters to unfold. Here I set the groundwork with case studies identifying the role played by networks of private expertise in both California and Chiapas. I propose this complex category, carbon authority, to account for how these networks orchestrated knowledge for the production and circulation of new forms of carbon value (i.e. carbon territories) in and between the two states.

The cases discussed in this chapter and the next recount critical moments where carbon authority was tested in the two states: crossed lines of state and federal forest administration in Mexico, persistent conflicts over land in the Lacandon rainforest, legal challenges to the veracity of California's offsets, and the procurement of expertise for California policy-making. In each case, government officials from the two states made moral and scientific claims to domestic and global audiences to assert themselves as legitimate global actors, yet those claims were resolved very differently. This chapter asks why, by identifying how those claims were challenged; the discursive, technical, and legal resources used to defend them; and the failure and successful authorizations that resulted. The chapter then goes on to discuss what these sites and (mis)alignments mean for the stabilization of a market in REDD+ credits between the two states, and the theorization of carbon authority.

II. Theorizing Carbon Authority

The previous chapter discussed how California sought to produce a new form of economic value through jurisdictional REDD+. Doing so required far greater interventions than required to produce carbon value at the much smaller scale of local projects. Unlike projects in the voluntary market, the version of REDD+ envisioned in

the MOU between California, Acre, and Chiapas corresponds to all forests contained in a state or province—a carbon territory. I extend the idea of carbon authority to argue that establishing new forms of economic value linked to the carbon stored in a political territory also require new forms of carbon authority to go with it.

Carbon authority does not simply exist. It is a *capability* that is made part and parcel of the socio-technical market infrastructures that generate carbon value. Those techniques must be sanctioned and integrated into administrative practice by political authority. This chapter examines the role of authority in fastening territory-making techniques into broader legal, epistemic, and administrative frameworks in California and Chiapas. Yet, we cannot say at the outset precisely how authority is made and what it is made from. We know this because the public controversies that arise and are resolved, or not, as those infrastructures are being built can appear anywhere where the technical, administrative, or legal links needed to hold them together are weak.

Realist approaches to political theory are ill-equipped to grasp this problem because they see political authority as the exclusive legitimate power that a sovereign may exercise over its citizens living within a defined geographic territory. Read against carbon territory, however, the notion of carbon authority prompts several empirical and theoretical considerations, namely: What is being authorized? How? By and for whom? These general questions lead to an additional set of concerns, showing that carbon authority is a complex category constituted by heterogeneous elements linked across multiple sites: How do sub-national governments frame global problems as their problems to solve? How do they portray themselves as legitimate global actors to local constituencies, national superiors, and international partners? How do they secure the

expert credibility needed to understand and manage complex environmental issues? Who challenges their new-claimed authority and how?

While carbon authority may be disaggregated across the carbon market, the market will not exist unless that authority coheres in some kind of stable order. This requires orchestration of some sort. To understand this process, we need to know: 1) what elements to look for, 2) how they are assembled to create stable market institutions within a political jurisdiction, and 3) how they are linked to create common market institutions across political jurisdictions.

II.1. Constituents of Carbon Authority: Public Authority - Private Authority - Expertise - Norms - Exceptionalism

I offer the following quote taken from *La Jornada* to illustrate the complex claims-making needed to secure carbon authority. During his international REDD+ press campaign in late 2010 and early 2011, Governor Sabines declared that the:

entirety of the surface [of Chiapas] will enter into the market for carbon credits and methane credits, beginning through agreements with polluting sub-national states, like California, which is the biggest polluter in the world....The objective of polluting governments is to clean their conscience by paying for carbon credits for REDD+” from the “best inventory” of carbon in the country.¹³¹

¹³¹ La Jornada. ‘Chiapas apuesta por el futuro sustentable al entrar al mercado de bonos de carbono y metano.’ 11 May 2011. available at: <http://www.jornada.unam.mx/2011/05/17/politica/004n1pol>

Sabines' quote provides a number of clues about how to think about the creation of carbon authority. First, the quote highlights both the state and the market. Carbon markets are chimeras of each. They are clearly markets, in the sense that they involve the exchange of economic goods between buyers and sellers. Yet, they are also quite obviously state programs, with all the debate, politicking, and horse trading that go with any controversial public policy. While it is not novel to point out the state-market dichotomy as a false one, carbon markets very clearly belie the limits of this distinction, which makes them ideal candidates to explore the relationship between markets and the state, specifically in regard to public and private forms of authority. This corresponds with the general observation that in 'new governance', "regulatory authority is decentralized, with regulatory responsibilities shared among private actors as well as state agencies" (Abbott & Snidal 2009).

Second, Sabines invokes expert authority, declaring that Chiapas has the "best inventory" of forest carbon in Mexico. Scientific knowledge for measuring and monitoring carbon, as well as legal and administrative knowledge for designing and implementing a carbon market, features critically in the efforts of both California and Chiapas. Moreover, these forms of expertise draw heavily on the private sector, thereby extending new forms of epistemic authority to private actors, also corresponding to the finding that, "Expertise is essential for effective regulation and is a major source of authority for private actors as well as for the state" (Abbott & Snidal 2009).

Third, he claims moral authority by stating, "The objective of polluting governments [like California] is to clean their conscience". Here, Sabines alludes to the existing discourse on ecological debt between the Global North and Global South.

Carbon credits for REDD+ are portrayed as reparations from California, the eight biggest economy in the world, to Chiapas, the second poorest state in Mexico.

Finally, he hints at sub-national exceptionalism, mentioning “the country” but not Mexico by name. Nor does he say anything about the United States, instead assuming the authority of sub-national states like Chiapas and California to enter into transnational agreements without permission or support of the national government. These heterogeneous elements of sub-national authority—on the role of the market, state, expertise, morality, and sub-national exceptionalism—recur in both Chiapas and California.

The case studies in this chapter follow these elements of carbon authority as they come together and fall apart in particular controversies in the two states. Before moving on, however, it is important to highlight that these elements are not free-floating but combine to form very particular lines of authority, making it crucial to specify to whom the arguments are directed. To frame this idea, I elaborate the idea of political performance, which may be directed both inwardly to secure authority within a given polity and outwardly to extend authority by gaining recognition by political actors outside the state.

II.2. Inward- and Outward-Facing Performances

Sabines’ portrayal of California as “the biggest polluter in the world” is hardly the epithet befitting an esteemed partner. Sabines, however, is not addressing his Californian collaborators. He is performing for Chiapenecos, assuring his people at home that their governor, not the giant to the north, is at the helm. To clarify the multiple lines of

authority in play, I distinguish between inward- and outward-facing claims to carbon authority. I refer to inward claims as those expressed within a given political system, for example, to the people of Chiapas or the regulatory discretion mandated by the state Legislature to California's Air Resources Board (ARB or CARB), while outward claims are directed vertically towards higher-level governmental authorities or horizontally towards other sub-national governments in or outside the country.

The distinction confers several advantages. First, it allows for the disaggregation of carbon authority across multiple sites, which helps to structure the following case material to map the complex lines of authority involved in assembling a common market across multiple political jurisdictions. This approach is in line with Anne Marie Slaughter's (2004) notion of a "new world order" bound through networks of disaggregated state functions. It also corresponds to the idea of polycentric governing arrangements, where authority is something generated by influential and committed participants, rather than received from some external source (Abbott 2014). The case studies contrast these arrangements in Chiapas and California but are not strictly comparative because the states represent two very different socio-political situations, with distinct roles and responsibilities in the market. Moreover, a strictly comparative approach ignores the relationship between political jurisdictions, which is critical given that the market requires the coordination of multiple polities and is beyond the authority of any one sovereign.

Second, the distinction between inward- and outward-facing claims makes it possible to ask how the heterogeneous constituents of carbon authority are configured differently in different political cultures. This underscores the need to attend to the way

inwardly-directed statements, like Sabines' above, re-frame and re-interpret global problems to authorize sub-national climate policy, where "responses have also been coupled with efforts to design policy that 'fits' the economic and political realities of a particular state" (Rabe 2007). This is true in Chiapas, for instance, where the impacts of climate change and investments in forest monitoring are rhetorically tied to devastating forest fires the state experienced in 1998, much like in California in 2015 the worst drought in historical record is increasingly used to justify the state's ambitions to lead global climate policy. Furthermore, inward- and outward-facing claims often differ and are differentially received when directed towards outside audiences, with the intent of expanding sub-national authority into new spaces of governance independent from their national sovereigns. As Barry Rabe (2008) notes, sub-national climate policy often pushes "Constitutional bounds in ways that allow for direct negotiation with other national heads of state or subnational governments outside the United States."

Third, inward- and outward-facing political performances offer an alternative to the language of top-down and bottom-up, lending apt metaphors for thinking about networked governance, transformational politics, and the green economy. California and large conservation groups, for instance, gained outward influence by occupying key positions in a network rather than their direct coercion in a hierarchy. The distinction also speaks to the ways carbon markets bring people and areas of the economy under distributed forms of political regulation, which seek to internalize economic externalities by bringing natural and economic processes into the economy.

Finally, inward and outward recall the dramaturgical ideas of onstage and offstage, where the authorization of a scientific or political claim calls for a performance

audiences are willing to believe, or act as if they are willing to believe (Hilgartner 2000). Successful performances, however, always keep some things hidden while revealing others, which introduces additional difficulties when inward- and outward-facing claims are inconsistent or span unfamiliar political cultures.

III. A Memorandum of Misunderstanding

III.1. Mixed Signals: De-Authorization of the Project or the Program in Chiapas?

When Governor Velasco canceled Sabines' signature REDD+ project in the Lacandon rainforest in 2013, the future of a partnership, first hailed as a sign of sub-national leadership on REDD+ and the green economy, was thrown into doubt. In an article in *El Herald* announcing the cancelation of Chiapas' REDD+ program, Environment Minister, Carlos Morales Vazquez, made no apologies:

It was a failure, and the strategy has already been canceled. It did not have the results that were announced. I believe that environmental problems must be dealt with using real strategies, not just on occasion.¹³²

The incident offers an entry point to a complex account of the carbon authority and its relationship to carbon territory, which goes beyond the narrow conception of authority as the purview of governments to a more expansive view of authority as the legitimate exercise of power in various forms. From this perspective, the distinction between

¹³² El Herald de Chiapas. (2013). 'Suspendido el programa REDD plus, dice SEMAHN'. 8 July 2013. Available at:

<http://www.oem.com.mx/elheraldodechiapas/notas/n3045308.htm>

projects, programs, and jurisdictional REDD+ (Chapter 4) gains new importance, for the boundary work different actors employed to treat the terms as separate or near-synonymous indicates broader struggles around authority and responsibility for operationalizing the MOU between California and Chiapas. This chapter highlights the connection between expert and private authority and technical notions of carbon territory, and how that relationship can help explain why the carbon market failed to gain hold.

Anti-REDD+ activists immediately jumped on Velasco's cancellation. In a statement titled 'Chronicle of a Failure Foretold', the Mexican branch of Friends of the Earth, Otros Mundos, said the cancellation vindicated its opposition. (I italicize programs and projects to highlight their usage.):

“The failure of the REDD+ *program* shows why *projects* that attempt to commercialize nature can't work in Chiapas," said Claudia Ramos-Guillén of Friends of the Earth-Mexico. "This *project* has had tremendous costs for the indigenous and peasant communities of the state. *Programs* by which the tropical nations of the global South are paid to absorb the climate pollution of the industrial North are destined to fail as long as real solutions to the climate crisis are not put into practice.”¹³³

But the new Governor came back, issuing a statement two days later to clarify that the PACT *project* had been suspended but reaffirming that the Chiapas REDD+ *program*

¹³³ Friends of the Earth. (2013) 'Chiapas Cancels 'Disastorous' Forest Plan Linked to Cali. Cap-and-Trade Program'. 18 July 2013. Available at: <http://www.foe.org/news/news-releases/2013-07-chiapas-cancels-disastrous-forest-plan-linked-to-cal>

remained very much intact. Supporters of Chiapas' REDD+ program in the GCF and ROW entered the debate, agreeing with the Velasco administration and activists that the PACT was in error but vehemently denying it had any connection with California or jurisdictional REDD+.

I will provide more details on the particular problems that plagued the PACT in later sections and the next chapter but here discuss how perceptions of Velasco's cancelation in California reveal how Sabines' failure to gain authority for his REDD+ project served to undo the outward authority Chiapas had begun to accrue for its REDD+ program. It also shows how California nevertheless maintained and even extended its authority as a REDD+ leader at home and abroad.

III.2. A Close Reading of Public Comments Made in the Earth Island Journal

To begin the exploration of carbon authority, I dissect public comments to an article published in the popular environmentalist magazine, the *Earth Island Journal*, posted by three prominent voices on the issue. The first is Tony Brunello, the chief facilitator of the REDD Offset Working Group (ROW), the advisory group mandated by the MOU. The second and third are the two journalists who had written the most about the REDD+ and carbon markets in the two states: Steve Zwick of the pro-carbon market website Ecosystem Marketplace and Jeff Conant, who had traveled to Chiapas with the Global Justice Ecology Project to cover the issue. I offer the quotes at length, to convey the tone and centrality of the program/project distinction to the debate.

I analyze this passage to make two key points about authority and suggest an alternative way to think about the problem, which I take up in the subsequent cases.

The first point is about the boundary work over REDD+. We saw an indication of this in the previous chapter, where certain ROW and ARB members went to great lengths to separate jurisdictional REDD+, the kind of REDD+ stipulated in California regulations, from the forest carbon projects many people associated with the idea. The second is that the stakes of that boundary work is the division of responsibility and authority among those involved in the design and implementation of the market infrastructure in Chiapas and California, as well as the harmonization and integration of the market between the two states.

The following quotations are comments made in response to a critique of the Chiapas-California agreement published in the *Earth Island Journal*, titled 'California's Interest in Overseas Carbon Offsets Schemes Makes Some Greens See Red'¹³⁴. [Bold added for emphasis]:

By Tony Brunello on Wed, July 24, 2013 at 5:42 pm

Unfortunately, I have to stick with my original comment here that you should do a bit more homework.

¹³⁴ Mitra, Maureen Nandini. (2013). 'California's Interest in Overseas Carbon Offsets Schemes Makes Some Greens See Red'. *Earth Island Journal*, 24 July 2013.
<http://www.earthisland.org/journal/index.php/elist/eListRead/california_interest_in_overseas_carbon_offset_schemes_makes_greens_see_red/>

1 - We released our report at stateredd.org July 17th, a week before your article. You state it has not been released yet.

2 - If you read the ROW report, you will see **we focus on STATE-WIDE deforestation** and GHG reductions, **not specific projects like La Candone**. All projects must feed up to STATE-WIDE (or titled JURISDICTIONAL-WIDE) deforestation and GHG targets to ensure there is no “leakage” and reductions are real. Your article **confuses projects and state-wide programs**.

3 - Our group, the ROW, is **simply a group of non government experts making recommendations to the states**. Period. **We collectively have never supported any project anywhere**. See the ROW report and website at stateredd.org.

3 [sic]- The ROW recommendations encourage states to support good programs and not support bad ones. If Chiapas decides to not support a bad one (as everyone in your article agrees) isn't that a good thing? Your article implies we supported the project, now we don't support the project. Not true. Again, you **confuse support for projects and state-wide programs. Big difference**.

If you actually want to talk about this, you should just call me at [phone number]. My multiple calls to you just never seemed to get through. Having

worked with EII for the last 20 years (Baikal Watch) with Gary Cook and Bob Wilkinson, I found this article very disappointing.

By Steve Zwick on Thu, July 25, 2013 at 11:34 am

Nandini;

This is a well-written piece, but your contention that “partisans on each side of the issue can’t even agree on which programs are supposed to be involved,” is dead wrong, as is **your contention that REDD advocates are sending mixed messages.**

Indeed, if anyone is sending mixed messages in this whole thing, it’s Jeff Conant – who, as you quite clearly demonstrate, just spent two years **trying to equate the “the REDD+ project being worked out in Chiapas’ Lacandon Jungle” with jurisdictional REDD while then differentiating that project from “a program more fully integrated into the ROW process”** when he got called out.

Your own quotes from Conant and the link to the story he wrote for your publication nearly two years ago

(http://www.earthisland.org/journal/index.php/eij/article/do_trees_grow_on_money) show that **the confusion and mixed messaging** that you’re highlighting come not from those engaged in the **legitimate REDD debate**, but from efforts by Friends of the Earth to equate the Lacandon Jungle

program with jurisdictional REDD – despite the fact that they clearly knew it was **NOT a REDD project at all**.

Yes, it uses the REDD acronym, but it has about as much to do with jurisdictional REDD as the Democratic Party of Albania has to do with Barack Obama’s climate policy, or that my Individual Retirement Account (IRA) has to do with the Irish Republican Army (IRA).

In our coverage

(http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=9848§ion=news_articles&eod=1), we gave Conant the benefit of the doubt when he insisted that last week’s release was an honest mistake based on poor phrasing by the Chiapas government and the el Heraldo newspaper. But the piece he wrote two years ago and that you linked to indicates this “mistake” is part of a systematic pattern of distortion. I say this because Conant clearly knew that **the Lacandon Jungle program** followed no carbon standard, that it employed no structured methodology, and that it involved no input from indigenous people. He clearly knew that it was just a poorly-conceived mechanism that funnels \$200 or so a month from auto fees to landowners, and he rightly and roundly criticized it (as has pretty much every REDD advocate who has encountered it), but then he employed a **bit of verbal sleight of hand to link that program with jurisdictional REDD** – a link that he clearly knew was wrong.

In last week's release, he makes the implicit explicit – a tactic I'd expect from the Heartland Institute or the National Review Online or the Competitive Enterprise Institute (the latter two of which are being sued by climate scientist Michael Mann for defamation of character – and rightly, I'd add).

I'm also wondering what purpose your other sources serve. You quote Kathleen McAfee, for example, as saying that REDD is “basically making nature itself into a kind of tradable commodity”, which is, quite frankly, silly. People who buy REDD credits aren't purchasing nature; they are paying to preserve it. REDD simply make that easier to do.

You also cite Carbon Trade Watch as saying that “REDD+ projects have already proven to be fundamentally unjust,” but where?

Yes, there is a legitimate debate around REDD, and even this legitimate debate can be confusing, but the people you've cited here appear more intent on derailing that debate than engaging in it.

By Jeff Conant on Fri, July 26, 2013 at 5:12 am

Steve – I don't know that your IRA analogy quite stands up, as both ‘versions’ of REDD in Chiapas stand for Reducing Emissions from Deforestation and Degradation. The **chief difference between them is that the cancelled state REDD program was – we all agree – sloppy, subsidy-based, and not**

‘jurisdictional,’ while the new version is jurisdictional and will be, presumably, much more well designed, thanks to the hard work of the ROW, as well as to the bird-dogging of a few NGOs who did a lot of work to bring to light the complex social issues at play and the need for better oversight.

The other thing that **the two ‘versions’ of Chiapas REDD have in common is that neither would have come about were it not for the emergence of the California offsets market and the 2010 MOU between California and Chiapas.** It is in this sense – the broader sense – that **the flawed and failed REDD project initiated by Governor Sabines (3 months after signing the MOU) was linked to California’s emergent cap-and-trade scheme.** And it is precisely an understanding of the broader context that, I’d argue, is required to comprehend the real impacts **that such projects can have, as well as their potential uptake by stakeholders.**

Market advocates are well aware that **‘price signals’ – the promise of future economic benefits – can have a profound triggering effect on social policy.** When California signed the MOU with Chiapas – a state with a long and well documented history of conflict between the government and a wide swath of the indigenous population – this sent a ‘price signal’, if you will, to the Chiapas administration that led that administration to initiate a project that manifested all of the potential fatal flaws of REDD. The fact that this was carried out with no MRV, no baselines, no crediting pathway, no safeguards,

no nothing – does not obviate the fact that **it was, in principal and in intent, tied to California’s burgeoning market.**

Is it good that the new version of REDD in Chiapas will be more closely tied to responsible policies that may have a dampening effect on such abuses?

Absolutely, and I congratulate ROW for having helped rein it in. Will it include a well-thought out social assessment and a process of free, prior and informed consent to allow the local population to determine if and how the program meets their needs? I hope so. I wonder, though, how such a process will go when proponents such as yourself respond to critics by calling them ‘idiotic’, as you once did of my counterparts at Otros Mundos in Chiapas, or by dismissing their concerns as ‘silly’ as you did of Kathleen Macafee in your previous missive. That doesn’t bode well for an inclusive and informed consultation process that allows for reasonable dissent, as global best practice dictates.

While the facts about Chiapas’ REDD plans have been at times difficult to ascertain – (a little like putting a price on hot air, or measuring and monetizing the hypothetical absence of a forest) – I have made an effort to do a service to both forests and human rights by sticking my neck way out through the investigation that I’ve carried out. Clearly some of my findings have been contentious; clearly some of the language I’ve used to share these findings has raised a few hackles; and clearly the opposition of a number of NGOs and

social movement groups has thrown a few red flags up in what could have been a much less visible process. With so much at stake, I think it's been worth it.

The article, titled 'California's Interest in Overseas Carbon Offsets Schemes Makes Some Greens See Red', took a sympathetic view to the Friends of the Earth's highly critical statement at a sensitive moment, appearing 16 days after Vazquez statement in *El Herald* and 7 days after the release of the ROW's Final Report.

Neither Brunello nor Zwick mention California by name, disassociating the state from REDD+ in Chiapas. Brunello strongly contested the insinuation that the PACT debacle had anything to do with the ROW and, by proxy, California. "The ROW," he said, "is simply a group of non government experts making recommendations to the states. Period." Brunello, irritated by a "very disappointing article", twice states that the problem lay instead with those like Friends of the Earth who "confuse projects and state-wide programs. Big difference."

Zwick similarly denied any wrong-doing by REDD+ advocates, charging Friends of the Earth with willfully obfuscating "the legitimate REDD debate" by sowing "confusion and mixed messaging" with "a bit of verbal sleight of hand to link that program with jurisdictional REDD....despite the fact that they clearly knew" otherwise. Even in the writings of a journalist versed in the topic, though, we see how unclear the distinction between REDD+ projects, programs, and jurisdictional REDD+ can be. Zwick refers to "that project" in one place and "the Lacandon Jungle program" further on. To further complicate matters, Zwick stressed that due to a lack of technical rigor, the project

in the Lacandon was “NOT a REDD project at all” (in contrast to a real REDD project), deviating from ARB’s usage of REDD+ to refer only to jurisdictional REDD+ and never to projects (Chapter 4).

For Conant, the only one of the three to explicitly reference California, a hands-off approach bordered on negligence: “Indeed, I find it troubling that no official in California has shown concern for the fact that the Schwarzenegger administration entered into this territory without doing its homework on a governor (Sabines) who ended up leaving Chiapas bankrupt and riddled with failed development projects.” Conant argued that California bore some responsibility for the events in Chiapas, regardless of the technical distinction between project- and jurisdictional-REDD+. Neither of the “two ‘versions’ of Chiapas REDD”, he said, “would have come about were it not for the emergence of the California offsets market and 2010 MOU between California and Chiapas.” He insists that a full account of the “broader context” demands the consideration of “the real impacts that such projects have” because the fact that the PACT did not meet California’s technical standards “does not obviate the fact that it was, in principal and in intent, tied to California’s market.” Sending a signal, he cautioned, “can have a profound triggering effect on social policy” for which little oversight existed outside the “bird-dogging of a few NGOs.”

California presented a ‘field of dreams’ model of leadership: Build the carbon market, and enterprising states like Chiapas will come to sell carbon credits. Brunello and Zwick performed boundary work in this vein, drawing stark boundaries (project/program, legitimate debate/deliberate confusion, California/Chiapas policy, technical advice/decision-making) that allowed California to claim green leadership when things

go right, while avoiding accountability when things go poorly by conceiving of the states and provinces it partners with as prudent, independent, and accountable political agents.

ROW members encouraged this model, urging California to send a signal by adopting a strong REDD+ policy. The ROW report itself states that California's cap-and-trade program "could provide positive incentives to these nascent jurisdictional REDD+ programs" and "greatly multiply the global impact of AB32 by sending a signal to other states that their hard work and political leadership in mitigating climate change will be recognized and rewarded" (ROW 2013). Conant agreed that the signal California sends is critical, yet asked how is it possible to square the claims to leadership on the one hand, and a lack of responsibility on the other? He suggests that the political and economic asymmetry between California and Chiapas calls for the former to take responsibility for the relationship.

Therefore, both sides invoke the phrase 'sending a signal' to describe California's role as an environmental leader, albeit to opposite conclusions. The notion of sending a signal is limited, however, because it assumes a broadcast model, as if referring to radio signals transmitted unmediated through the air. It is better to think of telegraph signals traveling over carefully laid wires, where authorized operators interpret and transit them at key points along the way. In this line of thought, the memorandum of misunderstanding between California and Chiapas cannot be chalked up simply as a communication breakdown but as the failed orchestration of private, epistemic carbon authority.

IV. Accounting for Networks of Private Expert Authority

The signal that money could soon be flowing into Chiapas and other tropical states and provinces at the forefront of REDD+ policy came with a flurry of excitement around ‘early action’ funding for climate mitigation. One of the notable developments at the climate negotiations in Cancún was the adoption of text committing developed countries to provide developing countries some US\$30 billion in ‘fast-start’ climate finance through 2012. The text included specific language on results-based demonstration activities eligible for early action REDD+ funding. Forest carbon projects in the voluntary market had already placed Chiapas on the radar of international donors as a candidate for early action funding. A working paper for the World Bank’s Forest Carbon Partnership Facility (FCPF), for instance, identifies the “promising experience” of Chiapas’ Scolel Té project as an example of the financial innovations that “need to be widely inaugurated in countless villages and regions for this approach to work for national-scale REDD-plus.”¹³⁵

California was reading signals as much as it was sending them. The MOU with Chiapas made no mention of early action funding, nor did the ARB give any indication that it sanctioned or was even aware of the PACT. At the time, however, the ARB was considering allowing international project-based offsets into the California market as a temporary measure to build an early offset supply¹³⁶. Regulators decided to consider

¹³⁵ FCPF. (2010). ‘Harvesting Knowledge on REDD-plus: Early Lessons from the FCPF Initiative and Beyond’. available at: <http://www.forestcarbonpartnership.org/sites/fcp/files/Documents/tagged/FCPF%20Harvesting%20Knowledge%20Nov%2019%202010-revised.pdf>

¹³⁶ ARB’s Preliminary Draft Regulations (PDR) for AB32 stipulate that international, early action credits come from an already accredited source, such as the Kyoto Protocol’s Certified Emission Reductions (CERs). Although the language does not offer much

international REDD+ offsets as well, following the advice of private organizations like Climate Focus, which argued that too large a share of donor money was going to REDD+ readiness capacity building programs at the national level and that more of it should go towards rewarding short-term emission reductions, especially reductions claimed by local private sector projects.¹³⁷ These experts not only helped California regulators interpret the broader REDD+ domain but also promoted California's reputation back out into that domain via their global networks, including into Chiapas and other sub-national jurisdictions where they were working.

It is therefore impossible to understand how REDD+ came to and took shape in California and Chiapas with reference to government authority and responsibility alone. Networks of private expertise played an essential role. Conservation International, The Nature Conservancy, and the Environmental Defense Fund were particularly active advocates for linking early action funding to REDD+ projects, accelerating and coordinating their efforts at all levels—international, national, sub-national, and local. These organizations seized the opportunity that early actions presented, advising sub-national jurisdictions with tropical forests to step up their REDD+ efforts. In some jurisdictions, like Chiapas, these groups had already acquired the status as informal conservation science and policy advisers, including on a number of ongoing forest offset projects, which would be potential recipients for early action funding. The critical

further guidance, the COP 16 negotiating text on early action credits might be interpreted to suggest that credits from REDD+ projects might soon qualify as well.

¹³⁷ See for example: Climate Focus. 'The Challenge of Urgency Incentivizing Private Sector Early Action in REDD+'. available at:

http://www.law.harvard.edu/programs/about/pifs/symposia/fcfs/2010-fcfs-briefing-materials/challenge_of_urgency.pdf

advisory and mediator roles played by private actors thus invalidate the idea that California simply sent a signal to prospecting partners.

The following sections examine the role these groups played in the design and implementation of carbon markets in the two states, arguing that their orchestration of transnational policy-making amounted to an emerging form of carbon authority.

IV.1.1. Sending and Receiving Signals

The specialized and highly technical nature of REDD+ afforded private actors significant clout even among highly sophisticated but overstretched regulators like the ARB, as they crafted and disseminated policies and technical standards for REDD+. In simpler or more familiar policy domains, governments typically possess in-house expertise or, if not, solicit expert recommendations through a structured advisory process. REDD+, by contrast, posed a specialized and fast-moving policy environment, where the expert reputation private groups acquired in the voluntary market imparted a level of technical and policy competency on REDD+ far beyond their government partners. Increasing policy complexity allowed transnational standard-setters to exercise proportionally greater influence in the national and sub-national space that was impossible to achieve in the painstaking UNFCCC negotiations. The Kerry-Boxer bill circulating in the US Senate cited the Action Reserve Protocol, and an amendment proposed to the bill contained text to incorporate other voluntary standards like the Verified Carbon Standard (VCS). In Australia, the Department of Climate Change announced that its National Carbon Offset Standard (NCOS) would recognize credits verified by the VCS and Gold Standard.

The sub-national arena, in particular, allowed these transnational groups to punch above their weight. California’s cap-and-trade program and the potential for early action funding in Chiapas proved an attractive space for these groups to promote, test, and shape REDD+ policy. Terra Global, VCS, and other pioneers in the voluntary carbon market set up offices in California as it was setting up its compliance market, positioning themselves as third-parties between the state’s REDD+ proposal and other sub-national efforts worldwide. This ability of private groups to act as brokers between California and Chiapas cannot be seen in isolation; it was one part of a much broader global strategy to centralize REDD+ expertise, which grew out collaborations among financiers, project developers, and conservation organizations in the voluntary market (Chapter 3).

The strategy called for a common set of standards to reduce transaction costs between California and other carbon markets and “create a more efficient, fungible marketplace for REDD+ credits and allow forest countries to build single systems that can access multiple sources of potential finance.”¹³⁸ Common standards would also make it possible for one REDD+ supplier to feed buyers in multiple markets—easing concerns that a single supplier like Acre could generate more credits than California’s entire market could absorb due to the limit the ARB set on the total number on international credits permitted under the program. Common standards proved attractive to major national and international REDD+ donors, most notably the Norwegian Agency for Development Cooperation (NORAD) and the World Bank, which contributed institutional and financial support for capacity building (though little direct support to individual projects).

¹³⁸ IETA COP 19 Side Events,
http://www.ieta.org/assets/EventDocs/COP19rev_cop19_ieta_sideeventprogram.pdf

Private standards devised and tested in the voluntary market proved a valuable resource for regulators, with the ARB, for instance, basing its coal mine methane (CMM) protocol on two pre-existing VCS methodologies. The VCS and affiliated big conservation groups pressed for the state to accept international offsets from REDD+ projects using the VCS Jurisdictional and Nested REDD+ (JNR) approach, which they had developed to ensure that projects were not left out of jurisdictional programs (Chapter 4). Getting governments to adopt private standards for project offsets was but part of the strategy; the other was to gain public designation as a carbon offset registry with regulatory authority over offsets themselves.

IV.1.2. Delegation or Orchestration of Expertise?: The Role of Private Networks in State Policy

In an August 2014 press release, titled ‘California Here We Come!’, the VCS announced that the ARB had approved it as one of three official Offset Project Registries (OPR)—entities qualified to list, report, and verify offsets (including early action offsets), and issue registry offset credits, under California’s cap-and-trade regulations.¹³⁹ One of the other OPRs, the American Carbon Registry (ACR) likewise began as a private sector initiative in the voluntary carbon market, while the third, the Climate Action Reserve (CAR) was created by the state to oversee the voluntary calculation and reporting of emissions (Chapter 4). VCS CEO David Antonioli marked the moment as one where public and private players were coming together to solve global problems:

¹³⁹ VCS. 7 Aug 2014. ‘California Here We Come!’. available at: <http://www.v-c-s.org/news-events/news/california-here-we-come>

The California system is on the cutting edge of figuring out how to tackle climate change....We feel it's time to be part of the game and part of the solution.¹⁴⁰

Antonioli's game and the solution represent moments of carbon authority in-the-making, where the ARB adopted standards from and delegated public responsibilities to private actors like the VCS, which possessed technical capabilities to regulate a domain far an excess of those the ARB possessed itself.

The relationship resembles one of delegation between a principal and agent when we limit the analysis to the policy-making and administration of the carbon market in California (or any one political jurisdiction). From this perspective, clear lines of accountability run vertically from the VCS (agent) up to the ARB (principal).

From the vantage point of sub-national networked governance, however, the lines of accountability are blurred, in many ways resembling orchestration more than delegation. Carbon authority offers a better way to understand this relationship by expanding the analysis from: 1) decision-making to knowledge-making, and 2) the regulation of private entities inside California or Chiapas to the coordination of government policy between California and Chiapas.

First, in a delegated relationship, principals typically empower agents to carry out the responsibilities they have assigned to them. Here, however, the ARB imparted the legal authority to the VCS *because* of its existing capabilities, which is more reflective of orchestrated relationships, where relatively independent agents are solicited based of their

¹⁴⁰ Ecosystem Marketplace. 8 Aug 2014. 'VCS Sees REDD in California'. available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=10478§ion=news_articles&eod=1

unique resources. Furthermore, it is not clear who was orchestrating whom. It is not simply that the VCS was selected to apply its expertise to verify, validate, and register credits; its expertise was also selected to be the basis of ARB regulations. Regulators retained—and exercised—the authority to reject or modify methodologies and other technical practices that originated in the voluntary market, but originate in the voluntary market they did, exerting a form of soft power over public regulations. This amounted to more than simply harnessing private capabilities to public ends because they deviated from or offered a narrow interpretation of those ends, which, in turn, shaped the structure of authority itself (a point I make in Chapters 2 and 3, and elaborate in section VI. below).

Second, private actors played a critical role themselves as knowledge brokers between California and Chiapas (see Chapter 3 for a discussion of knowledge brokerage). After the signing of the MOU, the two governments had nearly no direct and formal engagement, aside from the occasional role as observers to the ROW. The governments, for instance, did not send delegates to make contacts and build understanding in person. Nor did ARB representatives attend the 2012 Annual GCF meeting in Chiapas, delivering their regrets in a presentation over a scarcely audible weblink, which they said they could not deliver in person due to pressing policy matters at home. On a separate occasion two months later, California state Senator Kevin de León, (D) Los Angeles, did visit Chiapas—at the invitation of Environmental Defense to build political support for seeing through the MOU.¹⁴¹

¹⁴¹ Sac Bee. 10 Mar 2013. ‘Crossing borders: California tries to cultivate green roots with Chiapas’. available at: <http://www.sacbee.com/opinion/california-forum/article2576832.html>

As knowledge brokers, private groups acted as critical liaisons in the absence of government-to-government interaction. The VCS and partners were particularly well-equipped to assume this role, having boots on the ground in both states and the sole standard for jurisdictional and nested REDD+. VCS' JNR approach and designation as an authorized registry for California's carbon market promised a potent combination. Together, they positioned the VCS as potential setter of REDD+ offset standards, issuer of REDD+ offsets credits, and, by virtue of its extensive connections to developers and financiers in the voluntary market, catalyst of REDD+ projects across multiple political jurisdictions.

Thus, in contrast to simpler accounts of authority in the old model of governance (including those leading to the 'sending a signal' metaphor described above), in the model of new transnational governance, carbon authority presents a complex category, distributed across multiple sites and disaggregated into heterogeneous elements. In addition to standard-setting, carbon registries, and transnational knowledge brokerage, carbon authority appears in legislative and judicial confidence in the ARB's technical expertise, which I discuss in the California case studies below. The next section discusses the role of conservation groups in shaping the REDD+ Program in Chiapas.

V. Building Capabilities for Carbon Authority

V.1. Chiapas

V.1.1. Early Action for Old Visions in the Lacandon Rainforest

Decades of unmet promises by the government to provide locals with food, money, and other resources to conserve la Selva had bred the kind of cynicism expressed in one letter to *La Jornada* dating from 1988:

The bureaucrats of SEDUE [Mexico Secretary of Urban Development and Ecology] brought us a box of postcards from children from Europe asking President de la Madrid to protect the Selva Lacandona, but this can only be accomplished with development for the people who live here. In whatever ministry of government, in whatever program, they tell us that there is no money, that the country is in a crisis. Well then, if the international community wants to save the forest, why don't they bring the money to invest in the Selva? (Translation from O'Brien 1998)

All this could change, the thinking went, with REDD+. Fast-finance for early action projects like the PACT¹⁴² was the most direct path to this funding. Unlike the years it would take to get a jurisdictional program up and running, fast-start finance could deliver money on the ground quickly and, it so happens, within the term limits of a typical state governor. Early action was a hot topic in the Cancún climate negotiations, California had said that it would consider allowing early action credits into its market (though with no

¹⁴² Pacto por el Respeto y Conservación a la Madre Tierra

mention of REDD+), and conservation groups and carbon market entrepreneurs were drumming up the idea for early action projects worldwide, Chiapas included.

But the PACT came as a surprise. Not even Sabines' own Secretary for the Environment and Natural History (SEMAHN) knew much about the proposal for a project deep in the Lacandon forest, despite being the agency charged with seeing it through. SEMAHN had little time to plan. In early 2011, the agency held meetings with from Tzeltal, Chole, and Lacandon representatives of the Lacandon Community—the 66 Lacandon families who had been given settlement rights to over 600,000 ha of forest by presidential decree in 1971 and some members of Tzeltal and Chole groups who gained rights through decades of struggle (Figure 7). SEMAHN's first goal was to get some semblance of a project up and running, and payments flowing that spring, intentionally well before the central government's funds arrived in September. The state paid some 1500 households \$2000 pesos per month (about US\$180, or total US\$3.25 million per year), but the conditions for those payments were obscure, calling for the recipients to protect the area from illegal settlements and abstain from environmentally destructive activity.

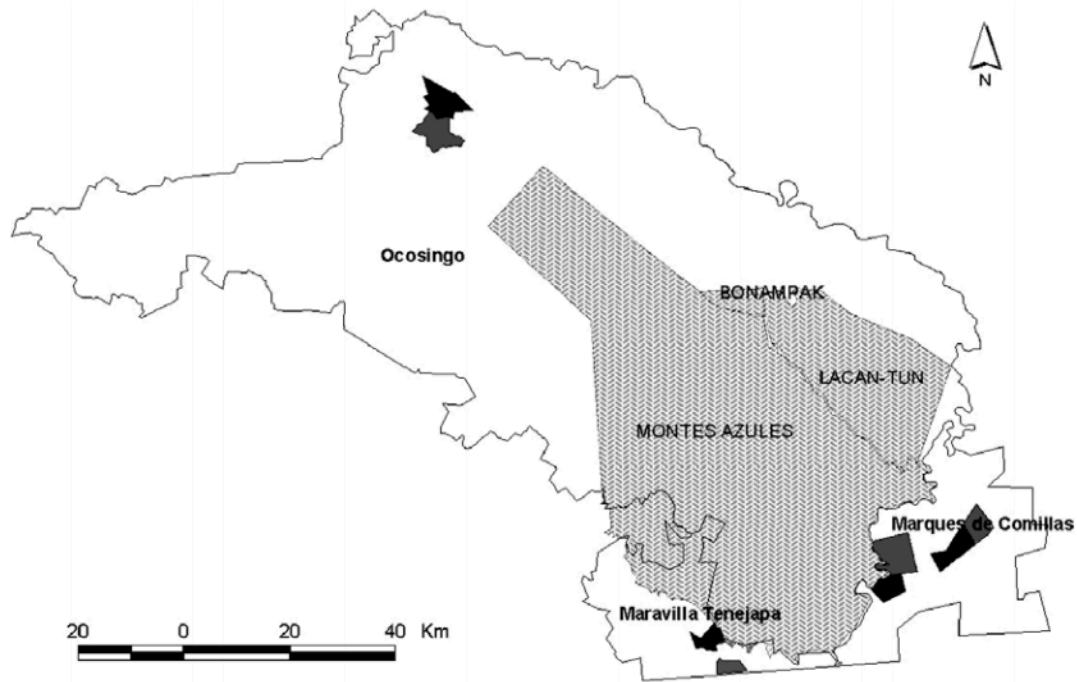


Figure 7. Map of the Montes Azules Biosphere Reserve

The haste with which SEMAHN was forced to move forward with the PACT carried major repercussions for the state’s authority over not only the project but the whole of Chiapas’ REDD+ program. Funding for the project was pulled together from an existing state automobile ownership tax and failed to secure additional government support from either state or national coffers. The project also lacked several factors expected of compliance-grade offset projects: clear objectives, geographic boundaries, safeguards, and a robust MRV system. Nor did the project have any clear link to a jurisdiction-wide program as stipulated for any project generating offsets for California’s market or even the one to two year verification and validation process of a private third-party standard like the VCS. And in a final coup de grâce, the payments issued for the

benefit of land-titled forest dwellers spawned allegations of land-grabbing among the landless or, in Sabines words, “the invaders” who already held deep suspicions of the alignment of the government, conservation organizations, and Lacandon Community.

Those payments reversed the logic of REDD+. Rather than first getting an MRV system up and running as the basis for ex-post payments for activities that avoided deforestation, *La Jornada* reports that the state government authorized the monthly payments:

to allow the completion of the forest inventory so that comuneros can access federal and international funds, and further complement these funds with projects such as the conversion of agriculture outside of the reserve to crops like oil palm and rubber.¹⁴³

The PACT required very little of its recipients and had no direct connection with building an MRV system for the state. In effect, it was another subsidy carrying on a long-standing patron-client relationship between the government and Lacandon Community.

Governor Sabines visited the Lacandon village of Frontera Corozal around the time the payments began flowing in March 2011. The visit caught the attention of the media, for it was the first time a Governor had visited the area since his father, Governor Juan Sabines Gutiérrez, made the trip 30 years before. Sabines used the opportunity to publicize the project, presenting it as part of a broader green development package for the

¹⁴³ *La Jornada*. ‘Reciben 600 comuneros de Frontera Corozal pagos por conservar la selva Lacandona’. 20 March 2011. available at: <http://www.jornada.unam.mx/2011/03/20/index.php?section=sociedad&article=034n1soc>

Lacandon Community. In addition to legitimizing it in local terms, he highlighted the global good it would provide by reducing a portion of the two-thirds of greenhouse gas emissions originating from land-use change in the state. Further underscoring the project's legitimacy as a bonafide conservation initiative, Sabines signed the PACT agreement alongside Conservation International's Mexico Country Director.¹⁴⁴

Sabines further drew on the organization's expertise to establish credibility for the PACT. While the state government lacked the capability to build a robust carbon inventory itself, Conservation International had amassed a wealth of data on deforestation and carbon stocks during two decades of work in the region. The government relied on the transnational expertise of The Nature Conservancy and Environmental Defense Fund as well. A number of prominent national and state environmental groups also advised the initiative, including Ambio (which was the project coordinator of Scolel Té, one of the earliest avoided deforestation projects based on a payments for environmental services; see Chapter 2) and Pronatura Sur (which was involved in REDD+ policy at state and federal levels in Mexico).

These groups' global connections placed them in a key position to help Chiapas' under-resourced agencies orchestrate the complicated initiative in the state, country, and abroad. Pronatura Sur and Conservation International were core contributors to one of the most important organs to REDD+ policy-making in the state—the Chiapas Technical Advisory Committee (CTC) for REDD+, the first state-level technical advisory committee for REDD+ in the country. And representatives from these groups were themselves exceptionally well-connected. One individual Pronatura Sur, for instance,

¹⁴⁴ Conservation International and its country affiliate, Conservation International-Mexico.

was: an advisor in the REDD Offsets Working Group, the Mexico country coordinator for the GCF, and a member of the National CTC for REDD+.¹⁴⁵

As the dominant transnational environmental group in Chiapas, Conservation International held a status gained through years of advocacy and research, including the negotiation of a landmark debt-for-nature swap that brought US\$2.6 million to protect the Lacandon. The group also became de facto expert adviser to SEDUE and operated the influential Chajul Tropical Research Station (O'Brien 1998). With funding from the British Embassy in Mexico, Conservation International, together with SEMAHN and local and national universities, led the Climate Change Action Program for the State of Chiapas (PACCCH).¹⁴⁶ One of the main objectives of the PACCCH was to “develop scientific-technical information on climate change in Chiapas including a state-level greenhouse gas inventory, a detailed REDD+ baseline and downscaling of climate change scenarios.”¹⁴⁷

For all their public profile, advisory services, and market savvy in developing Chiapas' REDD+ program, these private actors offered little input to the design and implementation of the PACT. More than that, they actively distanced themselves from the REDD+ project in the Lacandon—though they were *the* essential REDD+ advisers to Chiapas. These groups had little involvement with the REDD+ project and cannot be said to have transmitted a direct signal from California that it should feature as the public face of early action in Chiapas. Indeed, the PACT proved a thorn in the side of Conservation International, The Nature Conservancy, Pronatura Sur, Ambio, and others spearheading

¹⁴⁵ Comité Técnico Consultivo REDD+

¹⁴⁶ Programa de Acción ante el Cambio Climático del Estado de Chiapas

¹⁴⁷ PACCCH.

http://www.gcftaskforce.org/documents/Chiapas_Climate_Change_Action_Program.pdf

early action initiatives of their own in and outside of the state, which came to be tarred alongside the Sabines' state government's project in the Lacandon. But, as the only de facto REDD+ experts in the state, they did interpret for the government how Chiapas REDD+ program could fit into California's market for jurisdictional REDD+ credits.

Without these outside groups there would be no REDD+ to speak of in the state, which makes their failure to augur the fiasco to befall Sabines' signature REDD+ project in the Lacandon all the more puzzling. Thinking through this puzzle in terms of carbon authority shows these groups to have certain delegated forms of authority within Chiapas, in particular, in the design and administration of the PACCCH, which institutionalized their agenda-setting authority for REDD+ in the state. To provide scientific and technical guidance, for instance, Conservation International and local and national partners prepared a 'Feasibility Study for the REDD+ Mechanism in Chiapas'.¹⁴⁸ The intent of the document was to provide technical input to the state REDD+ strategy under development. The Feasibility Study makes specific mention of the MOU with California but says nothing of substance on the new kind of jurisdictional REDD+ called for by California regulators and the ROW. Instead it falls back on the same projects that Conservation International and other partners in the state had long advocated. To the extent a jurisdictional approach is mentioned, it is only in regard to the imperative to nest projects within a state-wide accounting scheme under the VCS, the same standard key former staff from Conservation International helped advise.

Projects were what these groups knew and did. Sub-national jurisdictional REDD+ was altogether new. The question of how, or even if, projects (and early action

¹⁴⁸http://www.pmcarbono.org/pmc/descargas/proyectos/CI_Factibilidad_REDD+/Informe_Fase_B/Executive_Summary_Final_Report.pdf

projects in particular) should fit into that broader scale approach was never seriously asked. As a result, the development of individual projects and broader REDD+ program took place along two distinct tracks, with little thought about how to integrate the two.

V.1.2. Contending for Turf: Struggles between Chiapas and CONAFOR

Early action projects presented an opportunity for the Chiapas government to one-up national conservation and development initiatives in the region. Before the press conference in Cancún, Sabines declared that the state government would launch its own effort in la Selva wherever the national government would or could not, and it would put down double the money to do so.¹⁴⁹ The announcement of the PACT came as a surprise to Mexico's focal agency for REDD+, the National Forestry Commission (CONAFOR), which saw it as a wrinkle in the ongoing national REDD+ effort.

CONAFOR did not react favorably. Officials at the agency were angry with the state administration for sowing “confusion and bad information” about REDD+, and intended to retain the authority to manage funding and contracts to national authorities.¹⁵⁰ While no legal prohibitions prevented Chiapas from staking out its own designs on REDD+, the project crossed two major conservation and sustainable development plans for the region.

One conflict was with plans for the Mesoamerican Biological Corridor (MBC), a “territorial planning system” based on a system of transboundary conservation areas established by the heads of state of Mexico and Central American countries with support

¹⁴⁹ interview. 3 March 2013.

¹⁵⁰ interview. 6 March 2014.

from the Global Environmental Facility (GEF) in 1997.¹⁵¹ The MBC designated two priority areas in the Lacandon Community. Furthermore, officials at CONAFOR and Mexico's National Commission for the Knowledge and Use of Biodiversity (CONABIO) saw the project as transgressing the turf national conservation leaders had drawn in the region. Mexico's influential former Secretary of the Environment, Julia Carabais, had staked something of a personal claim on the Lacandon over the past two decades. As an unstated rule, few major conservation initiatives went forward without her approval or that of her protégés, including one high-ranking official at CONAFOR who took the unusual step of personally thanking activists working for the frequent foe, Greenpeace, for vocally opposing the PACT.

A second conflict stemmed from the state's deviance from CONAFOR's efforts to coordinate a nation-wide REDD+ strategy. While CONAFOR had no clear criteria guiding early action efforts in the country, around the same time plans were underway for three other pilot REDD+ projects in the state. The PACT was the first to issue payments, leaping ahead of two other initiatives in the Lacandon. One of these overlapped with the Sierra la Cojolita project in the Northern Lacandon communities of Lacanja, Frontera Corozal, and Nueva Palestina. Heading the project was the Na Bolom, the organization that first cast la Selva as a global conservation treasure in the 1960s. The other project was CONAFOR's Special Program of the Lacandon Jungle (PESL), which linked a

¹⁵¹ see: http://ieg.worldbankgroup.org/Data/reports/mbc_rpr.pdf and http://www.tbpa.net/docs/62_Meso_American_Biological_Corridor.pdf and http://jpe.library.arizona.edu/volume_18/Ervine.pdf

federal payment for environmental services initiative to eight municipios in the southern Lacandon.¹⁵²

Governor Velasco's cancellation of Sabines' project threw the future of REDD+ in Chiapas into question. To the consternation of groups opposed to REDD+, Velasco's administration was quick to clarify it had stopped only the PACT project and not the program altogether. After a murky period the program emerged more closely aligned with CONAFOR's broader national strategy.

The realignment of sub-national efforts by both the state Government and transnational conservation groups can be seen as an effort to regain credibility, legitimacy, and hence carbon authority under the much broader and better supported national efforts in Mexico. Conservation groups saw little lost in relieving themselves from what all agreed was a REDD+ project in name only. The Policy Director of WWF's Forest & Climate Initiative—a group working more with the central government than Chiapas—remarked that she was glad to see the new Governor to stop the subsidies to the Lacandon Community, and refocus on aligning the state and national strategies and visions for REDD+.¹⁵³ Toby Janson-Smith, Conservation International's Senior Director of Forest Carbon Markets, VCS advisor, and ROW member, who had long advocated for early action REDD+ projects offered a similar, if slightly rosier assessment, saying, "It's hard to pin down, but in two to three years I would expect Chiapas to be in good shape in

¹⁵² A longer list of communities in the PACT area includes Naha, Metzabok, Lacanja Chansayab, Nueva Palestina Frontera Corozal and Oja de Agua Chankin, and in the PESL area Marqués de Comillas, Maravilla Tenejapa, Benemérito de las Américas, and Ocosingo.

¹⁵³ Ecosystem Marketplace. 19 July 2013, 'Chiapas State Government Says REDD Is Alive And Well And Far From 'Cancelled''. available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=9848

having a robust REDD program that is generating emissions reductions that could be verified.” He looked forward to a state-level strategy that still built upon the local work of early action projects and Conservation International’s MRV efforts in Chiapas, which were “coming along nicely”, but pointed to the value of re-aligning Chiapas’ efforts with national efforts.¹⁵⁴ Governor Velasco himself pivoted towards these national efforts, tacitly renouncing Sabines’ vision of Chiapas as a REDD+ leader in its own right.

V.2. California

V.2.1. Securing Private Expert Authority in Court: Citizens Climate Lobby and Our Children’s Earth Foundation vs. California Air Resources Board

Since the 1960s, California has acquired a reputation for environmental leadership by cleaning up some of the worst air pollution in the country. By the 2000s, the state catapulted into the status of global environmental leader, passing the most aggressive legislation to fight climate change in the world. In a preliminary study, environmental law scholar Ann Carlson (2014), finds part of the answer for California’s environmental leadership in the ARB’s regulatory expertise. Over the span of several decades, she suggests, the ARB’s success in regulating automobile emissions gained it the bipartisan trust of legislators, who passed far-reaching environmental protections and delegated increasing independence and authority to the ARB to see those protections through. A virtuous circle ensued between law-makers and regulators, where ambitious leadership yielded expert authority, and expert authority spurred ambitious leadership. Carlson

¹⁵⁴ Ecosystem Marketplace. 19 July 2013, ‘Chiapas State Government Says REDD Is Alive And Well And Far From ‘Cancelled’’. available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=9848

identifies three factors that fostered green leadership and regulatory capacity: agency structure, revenue sources, and history. When it comes to transnational global governance, however, the outsourcing of expertise to private actors complicates this account. To show why, in this section and the next, I explore the authorization of carbon authority in California in the: 1) courts and 2) legislature/regulatory agencies.

Doubts over the ARB's legal authority to include offsets under its cap-and-trade program were quelled in February 2015 when the Court of Appeal of the State of California reaffirmed a Superior Court decision to deny a petition put forward by two California-based grassroots organizations disputing the additionality of offset reductions. In *Citizens Climate Lobby and Our Children's Earth Foundation vs. California Air Resources Board*, the Petitioners charged the ARB with violating its legislative mandate that:

any regulation adopted by the state board pursuant to [the parts of AB32 governing greenhouse gas emission reductions and market-based compliance mechanisms] *shall ensure...*[that] the reduction is in addition to *any* greenhouse gas emission reduction otherwise required by law or regulation, and *any* other greenhouse gas emission reduction that otherwise would occur.¹⁵⁵ [Emphasis added as in the Petition]

¹⁵⁵ As referred to in the Petition, ARB's domestic Offset Provisions encompass: 1) the Offset Regulations and 2) four Offset Protocols for U.S. Forests Projects, Urban Forestry Projects, Livestock Manure Projects, Ozone Depleting Substances, and Methane Mine Capture Projects.

Offsets can be of two forms: California Carbon Offsets (CCOs), issued by ARB, and Climate Reserve Tonnes (CRTs), issued by CAR.

The charge built on a critique against the claimed additionality of carbon offsets that two attorneys at the Environmental Protection Agency had leveled at pending federal climate legislation in 2008 and 2009. During the same period, the attorneys, Laurie Williams and Allan Zabel, a married couple living in San Francisco, extended their arguments to California’s nascent cap-and-trade program.¹⁵⁶ Acting as private citizens on behalf of the Citizens Climate Lobby, Williams and Zabel submitted several public comments to the ARB as required by law during the AB 32 rulemaking process, in which they excoriated the Agency’s proposed Offset Provisions as a “fatally flawed and unworkable approach”.¹⁵⁷

The Petitioners challenged neither the Legislature’s definition of additionality in the Act, nor the Board’s more detailed interpretation of that definition in the Offset Provisions. Rather, they claimed that the Offset Provisions were inadequate to ensure the board’s own definition of additionality, as:

greenhouse gas emission reductions or removals that exceed any greenhouse gas reduction or removals otherwise required by law, regulation or legally binding

Health and Safety Code §§ 38562(d)(2)

ARB Compliance Offset Program website. accessed 11 April 2015:

<http://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm>

¹⁵⁶ The media rarely failed to refer to Williams and Zabel as a “married couple”. The two made frequent media appearances in print and broadcast media, including the NY Times, Fox News, and Democracy Now—to the displeasure of their superiors at the EPA, who made sure they made clear that they did not speak on the agency’s behalf.

¹⁵⁷ Responses to Comments on the Supplement to the AB 32 Scoping Plan Functional Equivalent Document. accessed 6.24.15. available at:

http://www.arb.ca.gov/cc/scopingplan/response_to_comments_on_supplement_to_fed.pdf

mandate, and that exceed any greenhouse gas reductions or removals that would otherwise occur in a conservative, business-as-usual scenario.

Consequently, the Offset Provisions, they argued, “were promulgated in excess of the authority delegated to the ARB and are therefore invalid”¹⁵⁸ and in violation of California law, which:

prohibits state agencies from expanding their authority when they promulgate regulations that do not meet regulatory standards for the particular activity. Under California law, an agency does not have the discretion to promulgate an administrative regulation if the regulation is not authorized by or is inconsistent with or enlarges the scope of an act of the Legislature.

The Petitioners offered two main arguments. First, they contended that the ARB had wrongly expanded its authority by using ‘performance standards’ to determine additionality. Such performance standards were devised by the Climate Action Reserve (CAR), as well as other non-governmental standard-setters like the VCS, to overcome the notoriously slow, inaccurate, and expensive project-by-project standards that had clogged the verification and validation process for offsets under the Kyoto Protocol’s Clean Development Mechanism. The use of performance standards offered a way to reduce the

¹⁵⁸ This exact quote appears in the Petition’s arguments for the lack of validity of an individual Protocol, but appears in slight permutations throughout each of the first five Causes of Action: Protocols Fail to Ensure the Additionality of Offsets, Vague Regulatory Definitions Violate Government Code Section 11349.1, The Offset Regulations are Not Enforceable, Regulatory Provisions Violate AB 32’s Integrity Standards,

cost and increase the speed of this process by setting a universal threshold for all offset projects in a given category that were “significantly better than average” or beyond “common practice”. They alleged that such an approach was:

flawed because offset activities which are merely “significantly better than average” or beyond “common practice” include, by definition, activities which already exist, are ongoing, and therefore, do not produce [additional] greenhouse gas reductions or removals.

The Petition argued that the Offset Provisions therefore defied the Legislature’s intent that the term “additional” designates “any” reductions that “would otherwise occur.” The Petitioners asserted that the Act presented these terms—“any” and “otherwise would occur”—in “plain language”, which the Court of Appeal described as a common sense interpretation that the Act meant “each and every” reduction be additional. As a result, the Petitioners argued, the Offset Provisions threatened to undermine the integrity of the Act because “illusory” credits would “flood the system” since “no truly additional offsets will be financially viable until all non-additional activities have been exhausted.”

Second, the Petitioners asserted that individual Protocols were invalid because they could not reliably determine which projects were truly additional. The Petition challenged that the performance standard upon which the Protocols were based employed a “flawed” and “inherently subjective and uncertain” “profitability test” to separate projects that would otherwise occur without the financial incentive of offsets from those that would not. The test required knowing, among other things, the cost of all inputs for a

project, the potential liabilities that a project might avoid by engaging in a certain activity, the value of offset payments, and the generation of extra value, for example, through timber, electricity or “green” advertising. The Petition stated that, since such things are variable and unpredictable, performance standards suffered from the same subjectivity problems as project-by-project standards, meaning that any determinations of additionality are:

at best, a guess about the future, which allows project proponents to “turn the knobs” in order to get the result they seek and to include activities that “would otherwise occur,” in violation of the AB 32 Integrity Standards.¹⁵⁹

The Court was not persuaded by either argument.¹⁶⁰ Ruling in favor of the Respondents on all alleged causes for action, Hon. Ernest H. Goldsmith—the same judge who had ruled more favorably with grassroots groups in a prior lawsuit over the public input process to the ARB’s *Climate Change Scoping Plan*—determined that the ARB neither exceed its delegated authority by using a standards-based approach to set additionality, nor failed to achieve the purpose of the Act by applying such standards in the four individual Protocols (and early action credits). He made these determinations through a two-step judicial review, which is important to note because it highlights two aspects of carbon authority in-the-making. The first secures the legitimacy of the regulations by affirming their consistency with the intent of the publicly elected Legislature, and the

¹⁵⁹ Association of Irrigated Residents, et al, vs. California Air Resources Board

¹⁶⁰ Statement of Decision Re: Petition for Writ of Mandate. Citizens Climate Lobby and Our Children’s Earth Foundation vs. California Air Resources Board. Case No. CGC-12-519-554

second confirms their credibility as a mode of instrumental public reasoning needed to advance policy goals.

In the first step, he found that the Legislature had delegated authority to the Board to interpret the statute, and hence applied a *de novo* standard of judicial review to determine if the ARB had exceeded its delegated authority by interpreting the statute to allow performance standards. In this kind of review, the Court reserves the option to exercise its independent judgment on the interpretation of a statute, giving as little or much deference to the administrative agency as it sees fit based on the circumstances and relative expertise of the agency and the Court. Judge Goldsmith exercised *de novo* review in line with the preference of the Petitioners and against the Respondent's desire for a much narrower interpretation that would require the Court only to determine if the regulations were "arbitrary and capricious", and therefore inconsistent with advancing the purpose of the statute.

The *de novo* review required the Court to determine whether the Board had elaborated or expanded the meaning of additionality and other key statutory terms, which, in turn, raised the question of how to distinguish between additional and non-additional claims. The Petitioners likely favored a *de novo* review because they forwarded a common-sense interpretation of the Act, in which showing that performance standards were invalid simply required a literal interpretation of the Act as disallowing any existing, and hence, non-additional projects to receive credits. Judge Goldsmith, however, ruled that:

Determining additionality is difficult, and it is impossible to precisely delineate between additional and non-additional projects. Petitioners ignore this reality and insist Respondent must use a perfect additionality mechanism or none at all.

The Court of Appeals used stronger language, saying the Petitioners took “the pedantic position that...[the] additionality requirement speaks for itself”. To take to this position to its logical conclusion, the Appeals Court found, would lead to the full exclusion of hypothetical or counter-factual assessments of projects that “would otherwise occur”. This, in turn, would rule out market-based approaches altogether, which clearly was not the Legislature’s intent since it gave the ARB the option of enacting a market-based compliance mechanism, including “emissions exchanges, banking, credits, and other transactions, governed by rules and protocols” established by the Board.

In the second step, the Court applied a more restrictive “arbitrary and capricious” standard of judicial review to each of the four Protocols individually (as opposed to the general provisions on performance-based standards reviewed in step one). Here, Judge Goldsmith’s review was more circumscribed, in which he refused to substitute his own discretion for the presumed competence of the agency:

When the Court inquires into such matters, it leaves the courtroom and enters the stakeholder meetings, laboratories, farms, and forests where Respondent’s expertise and experience far outstrips the Court’s.

The Court's narrower review found that the Board had not exceeded its delegated authority because the administrative record demonstrated that it had:

adequately considered all relevant factors and has demonstrated a rational connection between these factors, the policy implemented, and the purpose of the enabling statutes.¹⁶¹

The Court stated that the Petitioners, having failed to see the problem of non-additionality as an epistemic problem ("All parties agree that each and every reduction must be additional. They disagree on how to determine additionality."), subsequently offered:

no evidentiary support upon which this Court can overlook Respondent's technical expertise and delegated law-making authority in order to overturn their decision.

Parties did not distinguish between the experience and expertise of the Board from that of its advisers. The presumption is that the difference is immaterial because the Board's own competence afforded it sufficient discretion to determine relevant expertise and incorporate it on an as needed basis. This is not unusual for a delegated relationship, whereby the principal can lay claim to the capacities of its agents by virtue of the hierarchical terms of the arrangement. In legal terms, the precise identity of the advisers

¹⁶¹ The decisions further specifies that an "arbitrary and capricious standard" calls for the agency to promulgate regulations based on its "best judgment based on the currently available information", based on "its experience, expertise, and judgment" and "extensive research, stakeholder input, public input, and fact-based analysis."

is immaterial to the content of the knowledge so long as it is arrived at through sanctioned channels.

The Board, as a public regulator, thus drew substantial legitimacy and credibility from an impressive array of private businesses, utilities, conservation groups, and carbon market proponents that joined as Intervenor-Respondents to case. The Board's presumed independence made it possible for Antonioli, for instance, to at once declare, with no conflict of interest, that the VCS was a credible source of accounting standards and that its efforts would be harmed if those standards were made invalid:

The VCS Association has a clear interest in the above-captioned litigation. The VCS Association has spent a great deal of time, effort, and money, including convening a group of world-renowned experts, to draft rules and requirements for the development of consistent methods that standardize the determination of additionality for projects and streamline the quantification of reductions. These requirements are being considered for application to the carbon market being developed by the California Air Resources Board....If Plaintiff's successfully challenge CARB's regulations and obtain the declaratory and injunctive relief requested...the California carbon offset market will be eliminated, significantly harming the VCS Association's efforts.¹⁶²

Other Intervenor-Respondents backing the Board forwarding a mixture of expert opinion and material interests included: CAR, Environmental Defense Fund, Southern California

¹⁶² VCS declaration to the case

Edison, PG&E, San Diego Gas & Electric, World Oil Corp., Southern California Gas Company, CE2 CarbonCapital, NRG Energy, Carbon Offset Providers Coalition, and the International Emissions Trading Association. The Nature Conservancy, which played a major role in drafting the Urban Forest Protocol, filed an amicus brief with the Court.

These two steps of judicial review are illustrative of carbon authority because they represent two moments where new forms of legitimacy and credibility for defining and addressing global problems were secured. Contra the Petitioners' argument, and as determined by the Court, the Board had not expanded its interpretive authority outside that delegated by the Legislature. Rather, per Carlson's proposition about the mutual reinforcement of environmental leadership and regulatory capacity, the actions of the Legislature and Court served to expand the interpretive authority of the Board.

In regard to legitimacy, Judge Goldsmith said that the ARB had "vast discretion" under the Act "to promulgate any type of GHG reduction measure". The Act included nine, potentially contradictory statutory guidelines, which permitted but did not require market-based approaches.¹⁶³ The Board was tasked with interpreting, choosing, and balancing among these approaches. The comprehensive mandate to regulate emissions statewide not only recognized but also expanded the Board's authority by substantially increasing its reach beyond its usual purview of mobile sources to stationary sources as well. Moreover, the Legislature sought to empower the Board to address explicitly *global*

¹⁶³ The guidelines are to attempt to: minimize costs, maximize benefits to California, encourage early actions to mitigate GHG emissions, avoid disproportionate impacts on low-income communities, award early voluntary reductions with appropriate credit, complement existing state and federal standards, consider cost-effectiveness, consider over all benefits, minimize administrative burdens from implementation and compliance, minimize leakage, and consider the significance of contributions to statewide GHG emissions from each source or category of sources.

issues—dubbing the legislation the Global Warming Solutions Act. The Court took this intent into account in determining the extent of Board’s mandate, quoting the Act as an effort to leverage California’s position as “a national and international leader on energy conservation and environmental stewardship efforts [to place itself] at the forefront of national and international efforts to reduce emissions of greenhouse gas.” Judge Goldsmith assumed this stance himself, smoothly parlaying California’s reputation as a national environmental leader into a “global leadership role to encourage other states, the federal government, and other countries” to take climate action. Thus, the Court and Legislature joined the Executive to define California as not just an environmental leader but an explicitly global one, and further harnessed that moral global authority as a reason for other sub-national and central governments to follow, even those of the United States itself.

In terms of credibility, the Court’s decision invoked “the science behind additionality” to counter the Petition, in what very likely was the first time that expression found its way into California legal writing and probably legal writing of any kind. The phrase has since reappeared in several commentaries on the decision, including one describing it as “interesting outcome” and “certainly one that will add to the ARB’s momentum in getting cap-and-trade successfully off the ground”.¹⁶⁴ Another noted the

¹⁶⁴ <http://legal-planet.org/2013/01/28/california-cap-and-trade-offsets-challenge-rejected/>. Also see, for example: <http://www.swlaw.com/blog/california-land-use-developments/2013/06/20/california-scores-another-cap-and-trade-victory/>

<https://law.ucdavis.edu/centers/environmental/files/Recommendations-for-a-National-Cap-and-Trade-System.pdf>

34-page decision as presenting an “unusually detailed analysis of California law governing judicial review of agency action.”¹⁶⁵

Neither litigants nor observers have closely reflected, however, on why the case merited such a detailed review or the implications of that review for scientific claims-making about additionality in carbon markets more generally. The Petitioner’s preference for *de novo* review, and the Respondent’s for an arbitrary and capricious one, indicate that each saw an advantage for the Petition in an independent judicial review because of the high degree of deference that would be given to the Board on technical matters. Furthermore, the Petitioners suggested but did not develop the argument that the agency exceeded its authority by acting outside its area of expertise, indicating that they correctly anticipated the deference of the Court to the Board’s competence and experience, and planned their case accordingly.

The case is instructive for what it says about the questions that were not raised, and hence the assumptions made, regarding the ARB’s own delegation of expertise to private actors. The simple answer is that the prior rulemaking process and public comment period were determined to be the appropriate step for dissenting groups to register other input into the advisory process. This, in fact, was the issue in *Irritated Residents et al. vs. California Air Resources Board*, in which Judge Goldsmith agreed with the allegation that the ARB had not conducted a sufficient analysis of alternatives to cap-and-trade in its preparations for implementing AB 32.

The difference between *Citizens Climate Lobby* and *Irritated Residents* is telling because in the latter case environmental justice groups succeeded in forcing the Board to

¹⁶⁵ <http://www.swlaw.com/blog/california-land-use-developments/2013/06/20/california-scores-another-cap-and-trade-victory/>

conduct (even if it did not adopt) additional expert analysis on non-market based alternatives. By contrast, in the former case, and earlier rulemaking process, environmental justice groups fundamentally opposed to market measures had no counter-expertise to offer within a market logic. They could only deploy negative arguments against offsets altogether in the hope of a sympathetic *de novo* interpretation of the statute but lacked positive arguments for how to determine additionality using methods better able to deliver the statute's objectives than the performance standards that the Court determined were within the ARB's legal mandate. Sector-based offsets, for example, which the Court briefly mentioned in its opinion, were designed to overcome some credibility issues additionality raised in the Petition and could conceivably be argued for as a technical improvement over performance-based standards. Indeed, the ARB's based its decision to use a sector-based approach for jurisdictional REDD+ on this very logic.

The use of alternative market logics was never entertained by the environmental justice community, which pulled back from a litigative strategy to redouble efforts to sway public opinion and introduce new legislation. I address these strategies in the next chapter but reserve the current chapter to elaborate what the case says about the authorization of private expertise. To further explore the relationship between private expertise, the ARB, and the "science of additionality", I turn to the ARB's advisory process, with a focus on the networks of transnational expertise championing REDD+ offsets in particular.

V.2.2. Composition of In-State and Transnational Expert Advice

The legal case presented above pertained specifically to performance-based standards and the ARB's four domestic Protocols. While the international sector-based offsets from REDD+ were not an issue, the Court's ruling in favor of the ARB and the unsuccessful appeal that followed only served to shore up the agency's expert authority to interpret and implementation offsets of whatever suit it saw fit. Yet, the passage of REDD+ regulations would have to proceed through further rulemaking, which might open additional judicial, administrative, or executive challenges to the ARB's expert authority in this domain. To explore where such controversies might emerge, here I contrast the procurement of expertise for in-state and domestic measures in AB32 with that of transnational expertise solicited for the REDD+ through the ROW. I base the analysis on the three qualities mentioned above, which Ann Carlson (2014) tentatively attributes to the ARB's substantial regulatory capacity: agency structure, revenue, and history.

The ARB convened five committees to provide the Board with advice, information, advice, comments, and recommendations for matters related to climate change¹⁶⁶. Legislation for AB32 called the ARB to convene two of these—an Environmental Justice Advisory Committee (EJAC) and Economic and Technology Advancement Advisory Committee (ETAAC). Separate legislation created the third, and the ARB convened the remaining two to address specific subject areas, one of which was on market mechanisms at the request of the Governor. The ROW, by contrast, was mandated by the non-legally binding MOU signed by the governors of California, Chiapas, and Acre, and carried no such status under the law or direct ties to the ARB.

¹⁶⁶ <http://www.arb.ca.gov/cc/committees/committees.htm>

The distinction between the independent ROW, created by a transnational executive agreement, and the other committees, established by state law, executive direction, or regulatory discretion, is significant, in part, because of the committees' selection process and composition. The ARB directly oversaw the selection of in-state advisers, often to meet specific requirements imposed by the legislature. These differences were present across all the in-state committees but most acute with the environmental justice advisory committee. AB32, for example, states that the EJAC:

shall be comprised of representatives from communities in the state with the most significant exposure to air pollution, including, but not limited to, communities with minority populations or low-income populations, or both.....The state board shall appoint the advisory committee members from nominations receive from environmental justice organizations and community groups.¹⁶⁷

The composition of ROW stipulated in the MOU was less specific, and, in contrast to the in-state committees, did not guarantee a selection process accountable to marginalized groups:

This group will weigh the legal, technical and economic considerations in developing sector-based credits generated by the Parties....This group should include no more than 15 representatives with experience developing sector-based REDD programs or directly involved with the states supplying the credits.

¹⁶⁷ AB32. fSection 38590. Available at: http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf

While the MOU also allowed for representatives “from the California state government”, no government members joined the voluntary board itself, though it did seat representation from the ARB’s close affiliate, CAR, and government observers from California’s ARB, Chiapas’ Secretary for Environment, Housing, and Natural History (SEMAHN), and Acre’s Institute of Climate Change and Regulation of Environmental Services.¹⁶⁸

Brunello headed the ROW as its chief Facilitator and Executive Director, a choice based on his experience in the design on California’s climate and energy policy, and extensive ties in the private sector and policy worlds both in-state, in D.C., and overseas. Brunello, a Partner in the public strategies firm California Strategies LLC, had served

¹⁶⁸ The composition of the ROW deviates slightly from the text of the MOU, for instance, in the lack of a “national representative from the selected states”. Neither are the precise roles defined for the members. It is unclear, for instance, which member is the “one” “expert advisor” “on the social dimension of greenhouse gas mitigation.” See Article 3 of the MOU:

ARTICLE 3

In furtherance of the priorities referenced in Article 2, the Parties will develop the following method of cooperation, among others: a. The states will develop a Sub-national REDD Working Group that will convene monthly between December 2010 through October 2011 to begin the process for developing a state to state sectoral REDD linkage recommendation that will provide the foundation for an eventual submittal to the California Air Resources Board, as defined in California’s cap and trade program (CCR, Title 17, Sections 95991-95997) and to other necessary state entities to approve such a recommendation amongst the Parties. This group will weigh the legal, technical and economic considerations in developing sector-based credits generated by the Parties. This group should include no more than 15 representatives with experience developing sector-based REDD programs or directly involved with the states supplying the credits, or from the California state government. The process should be led by a facilitator to ensure the group focuses on meeting the needs of ARB in their existing cap and trade regulations. Membership should be limited to a small number of representatives of each Party, a national representative from the selected states;, a limited number of NGO representatives and expert advisors including one on the social dimension of greenhouse gas mitigation, but no more than 2 project based standard organization representatives, and a facilitator. b. Other methods developed between the Parties.

under Governor Schwarzenegger as the California Natural Resources Agency's Deputy Secretary for Energy and Climate Change, where he established the Governors Climate and Forests Task Force (GCF) in 2008. Other members of the 11 member advisory committee include representatives from California's Climate Action Reserve (CAR), academics specialist in earth system science and environmental policy, and individuals from the Ford Foundation and three large conservation organizations, The Nature Conservancy, Environmental Defense Fund, and Conservation International (also see Chapter 4).¹⁶⁹

The ROW also differed from the in-state committees in terms of funding. AB32 states that the Board "shall provide reasonable per diem for attendance at advisory committee meetings by advisory committee members from nonprofit organizations." The ROW, on the other hand, was independent of any state agency or state funding. Members volunteered their time, but the group received funding from its meetings and other

¹⁶⁹ ROW Participants:

- » Daniel Nepstad, International Program Director, Amazon Institute of Environmental Research
- » Derik Broekhoff, Vice President for Policy, Climate Action Reserve
- » Greg P. Asner, Professor of Geological and Environmental Sciences, Stanford University; Scientist at Carnegie Institution's Department of Global Ecology
- » Ludovino Lopes, Consultant to the Secretary of Environment for the State of Acre in Brazil
- » Michelle Passero, Senior Climate Policy Advisor, The Nature Conservancy
- » Peter Riggs, Independent Consultant, formerly of Ford Foundation
- » Rosa Maria Vidal, Director, Pronatura Sur, Chiapas, Mexico
- » Steve Schwartzman, Director for Tropical Forest Policy, Environmental Defense Fund
- » Toby Janson-Smith, Senior Director of Forest Carbon Markets, Conservation International
- » Tony Brunello (Facilitator), Green Technology Leadership Group
- » William Boyd, Associate Professor of Law, University of Colorado Law School, Colorado; Senior Advisor and Project Lead: Governors' Climate and Forests Task Force

activities from two private donors that also supported the GCF—The Gordon and Betty Moore Foundation and ClimateWorks under the Climate and Land Use Alliance. Administrative support came from the Greentech Leadership Group, a Sacramento based 501(c)(3) organization with a mission to bring together California policymakers and clean technology innovators by fostering dialogue, providing education, and supporting economic development. Brunello was the Group’s Executive Director.

Finally, the ARB’s ability to provide financial support and requirement to solicit experts taken to be representative of a cross-section of society, including environmental justice groups, is an historical legacy, emerging over decades of interaction between the ARB and the Legislature. By 2013, the Board had a highly-competent and well-compensated staff numbering nearly 1300. The Board’s ability to retain and even increase its staff during budget crises is made possible because it self-funds through the fees it collects from regulated entities—a capability conferring financial independence from the legislature and impeding capture by regulated entities (Carlson 2014). The transnational advisory structure of the ROW affords no such historical public capability, instead outsourcing expert authority to resourceful and well-connected private actors.

Thus, the ARB relied on two distinct advisory processes for offsets originating in the US, on the one hand, and international REDD+ offsets, on the other. Critics leveled similar attacks at both, especially over the veracity of claims to additionality and the effects of the signal California was sending by suggesting it might offer financial compensation to voluntary early action offsets. Yet, the ARB successfully secured authority for the former, through its discretion backed up by the Court, but stayed arms length from the latter, surely in part because of the hackles raised around Sabines’

REDD+ project in Chiapas. One might argue that the ARB did not solicit a different advisory process for REDD+ so much as preliminary recommendations that would enter a legally sanctioned advisory process in California should the Board opt to move forward with international offsets. But such a view skirts around the reality that soliciting experts who are also practitioners to advise even a preliminary recommendations can exert something of a ‘reverse early actor’ effect, where well-networked private actors stand not simply as neutral observers but orchestrators of government policy towards a certain interpretation of policy goals.

That the different paths taken by domestic and international offsets might have something to do with the incorporation of private expertise through a legally sanctioned advisory process for domestic offsets for one, and an ad hoc working group for international offsets, has gone largely unrecognized. Calling attention to these arrangements makes it possible to see transnational private expert networks as active players orchestrating market-making between governments that lack the resources, expertise, or perhaps interest in taking on those responsibilities themselves. In this light, California did not simply ‘send a signal’ to Chiapas so much as cede certain responsibilities for the design of the program in exchange for access to nascent markets and the regulatory and legal sanction of private forms of carbon authority.

Few benefits come without a cost, however. To observe the unanticipated consequences of such ad hoc arrangements, one must only turn to the heated and starkly divided public comments the ROW received after over two years of uncontroversial internal deliberations on how to introduce REDD+ credits into California’s cap-and-trade program. In the next section, I discuss how the unanticipated blowback from the PACT

relates to the authorization of new forms of transnational private authority for designing and implementing a common carbon market between California and Chiapas, an arrangement that contributed to an outcome that benefited neither.

VI. Discussion and Conclusion: Orchestrating Expertise for Public or Private Interest?

The cases in this chapter have shown why the idea that the Government of California was sending a signal to which the Government of Chiapas responded through a problematic REDD+ strategy is inadequate to explain decision-making and knowledge-production processes linking the two states to each other and the much wider net of public and private actors vying to shape REDD+. I have presented the notion of carbon authority to describe these decentralized processes, highlighting key points where private organizations have gained formal and informal authority in Chiapas and California, which conferred certain influential transnational actors the status of de facto private experts tasked with coordinating standards, registries, agenda-setting and other key elements for governments proposing to build a REDD+ market. The resources and flexibility of these private groups helped to establish them as critical intermediaries between the two states, through strategies tailored to two very different socio-political situations.

In Chiapas, Conservation International, The Nature Conservancy, and Environmental Defense were especially active, joining local and national NGOs to become essential advisers to the state, crafting technical documents and other key elements of the Chiapas' Climate Change Action Program. The officials, in turn, raised

the profile of these globally reputable environmental groups to demonstrate the credibility of its REDD+ efforts to California and international audiences. The strategy also aimed to set Chiapas apart as a REDD+ leader within Mexico, but a combination of the PACT's running aground on long-standing land conflicts and competition with the Mexico's National Forestry Commissions' own plans for REDD+ and other conservation initiatives in the Lacandon proved insurmountable. Sabines' efforts to gain independent sub-national authority gave way, and incoming Governor Velasco re-aligned the state's REDD+ efforts with national ones, to the satisfaction of the conservation groups advising the state, which found the tarred PACT to be a liability to their broader REDD+ efforts, and which better leveraged their existing position in Mexico's national-level REDD+ strategy.

In California, by contrast, regulators not only secured significant legal authority but also expanded that authority from the regulation of in-state air pollution from mobile sources to global greenhouse gas emissions across all sectors. And, unlike in Chiapas, government officials had no need to draw attention to outside expertise to authorize the carbon market. Indeed, doing so might itself have been perceived as a liability, for the Legislature and Executive, backed by the Courts, delegated substantial discretionary authority to the California Air Resources Board to see through the state's increasingly ambitious environmental agenda. With AB32, that agenda reached global proportions, relying on many of the same transnational groups that advised Chiapas to draft provisions for the California carbon market. In regard to REDD+ offsets specifically, these advisers carried no legal status, offering only informal recommendations mandated in the ROW

by the MOU signed by Governors Schwarzenegger and Sabines, with funding support from private foundations.

This multi-sited account of carbon authority reveals a complex and shifting mosaic, where public officials in California and Chiapas heavily relied on private expertise to coordinate market-making across transnational, sub-national borders. The lack of a single sovereign to authorize those efforts required the creation of multiple interlocking lines of decentralized authority, assembling heterogeneous elements of carbon authority through sub-national legislatures, regulators, courts, and executive decree. While California succeeded in securing carbon authority inside and outside the state, Chiapas achieved neither. The partial authorizations that resulted advanced the aspirations of neither (at least in the short-term) policy-makers in Chiapas nor California. This failure to reach a stable arrangement begs the question: Who is responsible for the impasse?

To frame the responsibility as falling on governments alone—as pro- and anti-REDD+ camps typically do—overlooks the discretion private actors exercised as authoritative experts. These groups did not simply transmit a signal from one jurisdiction to the next as neutral intermediaries but actively interpreted California’s proposal for jurisdictional REDD+ in a relatively narrow way that stressed the incentivization of local actors through payments for environmental services over alternative state-wide strategies to curb deforestation. As described in Chapter 4, the choice to emphasize local projects did not exhaust the possibilities for ROW’s policy options for reducing forest carbon and calculating and allocating carbon offsets—it represented one possible way to configure risk, scale, and finance for carbon territory.

That does not mean transnational private experts opposed jurisdiction-wide approaches. But they did relatively little to advance technical or financial options for facilitating large-scale reductions in deforestation. Rather, they interpreted jurisdictional REDD+ as foremost an accounting architecture that would facilitate market-innovation through early action projects, without devoting much attention to how scattered local projects would scale up into either significant carbon savings or a comprehensive state-wide REDD+ infrastructure. As Antonioli indicated, the priority of VCS's accounting approach for Jurisdictional and Nested REDD+ (JNR) (Chapter 4) was more on the "N" and less on the "J":

There are a number of challenges that we are seeing with respect to measuring carbon. The underlying frameworks are already very well established. Right now there is a lot of effort being placed on developing what we call the new crediting mechanisms of the future, which may be more streamlined approaches for assessing whether projects are legitimate and can be brought forward and registered and the credit issuance process. And there is also a lot of interest in terms of REDD+ projects, and forestry level projects, for them to be done at the jurisdictional level. *So we're busy drafting new requirements that will allow those projects to nest and to fit within broader jurisdictional frameworks.*¹⁷⁰ [Emphasis added]

¹⁷⁰ https://www.youtube.com/watch?v=Tz7G6_cw84o

By orchestrating market-making between California and Chiapas, conservation groups and carbon market entrepreneurs that had cut their teeth on projects in the voluntary market thus transformed the ‘government risk’ posed by nested and jurisdictional REDD+ (Chapter 3) into a strategic asset, where governments—in exchange for access to the extensive epistemic and institutional resources held by private groups—authorized private experts to build a carbon market safe for risky early action projects, venture capital, and the significant organizational resources expended in bringing the two together.

It is not clear that this project-first model favored by private actors was in the public interest. As discussed in the previous chapter, regulators in the ARB and certain ROW members saw value in the jurisdictional approach’s alternative configuration of risk, scale, and finance for its potential to reduce uncertainties over the mitigation of carbon emissions by measuring them at a large scale, thereby stemming the regulatory risk of issuing carbon offsets for ‘hot air.’

The influence of private groups abdicates neither California nor Chiapas of responsibility for market-making, but it does suggest that they may have too eagerly ceded authority to private experts to coordinate the market infrastructure in and between the two states. The emphasis on early action projects promoted by project proponents in California and international REDD+ negotiations must be at least partly responsible for Sabines’ decision to move forward with his controversial project in the Lacandon. The experience of the PACT suggests that socially divisive projects present a ‘private risk’ to governments, mirroring the ‘government risk’ to private actors. The PACT undercut carbon authority not only because it lacked the rigorous MRV requirements supposed for

a compliance-grade REDD+ project. More critically, it exposed a quagmire of social tensions that caught all parties by surprise—and which Sabines sought to quiet, the ARB failed to anticipate, and the ROW opted to place outside its purview.

Responsibility and authority for navigating these social problems fell to no one. Before addressing carbon responsibility in the Conclusion, it is therefore imperative to consider the construction of not only technical and political capabilities for carbon territory and carbon authority but also normative capabilities for carbon rights. This is the task of the next chapter.

CHAPTER 6

CARBON RIGHTS: REMAKING PROPERTY AND COMMUNITY

I. Introduction

The purpose of this chapter is to bring civil and political rights into methodological, theoretical, practical, and ethical conversation with property rights, territory, and authority. Taken together, the theses of Chapters 4 and 5 yield a syllogism: If techniques for calculating carbon territory define the entities that can be traded as property, and carbon authority shapes the selection of techniques, then carbon authority also confers the de facto power to shape what counts as property.¹⁷¹

This syllogism would be a truism but for two constitutional implications stemming from the ontological indeterminacy of carbon credits. First, as we have seen in Chapters 2, 3, and 4, carbon accounting imports political-economic questions into market design (i.e. the definition of economically-valuable land), notably by shaping public and private domains through configurations of risk, scale, and finance. Second, as discussed in Chapter 4, the decision to wed carbon value to political territory through jurisdictional REDD+ adds to these political-economic questions about land political-strategic ones about terrain (i.e. the production of state power over a given space and the subjects within it).

The task of this chapter is to extend this syllogism to its corollary: If property rights and civil and political rights are inseparable (Jasanoff 2011), then carbon authority

¹⁷¹ By civil and political rights, I refer to that class of universal and inalienable human rights which guarantee individual freedom and liberty. They include rights such as, the right to life; the right not to be tortured, enslavement, or coerced labor; freedom of speech; and the right to participate in the decisions of a political community. In international law, civil and political rights are enshrined in documents such as the UN Declaration on Human Rights and UN Covenant on Civil and Political Rights.

carries de facto constitutional significance for matters normally thought outside the market, such as the obligations of the state to its citizens, the channels individuals and communities can use to exercise those claims, and the identity they must have to do so.

I use the words ‘shape’ (in place of stronger words like ‘cause’, ‘explain’, or ‘determine’) to describe the dependence of rights on territory and authority, for while the categories are laid out somewhat formally above, they are not determined in a linear or straightforward way. Indeed, this chapter, like those before it, presents detailed, empirical case studies to unpack the plurality, fragmentation, and contingency of these categories in practice.

The idea of carbon rights is relatively new and not terribly well defined. Usually it is used to refer to the property rights held over carbon credits. This aspect of the term I address in Chapters 2, 3, and 4, which discuss the relationship between techniques for measuring forest carbon and the allocation and ownership of credits. Here I treat carbon rights in a related but more expansive sense, as not simply the explicit *property* rights but also the implicit *civil and political* rights that emerge in the definition and negotiation of this new asset class.

To introduce the complexities in play, the next section develops the concept of carbon rights, in both its property and civil and political dimensions, which I define as complex category (i.e. composed of heterogeneous elements dispersed across multiple sites) similar to carbon authority discussed in Chapter 5. This section goes on to offer a brief vignette of claims-making made by indigenous and environmental justice groups in the wake of the release of the REDD+ Offset Working Group’s (ROW) recommendations, followed by a discussion showing how the concepts of reflexive

modernization and risk rationalities can be used to make sense of the illegibility of and response to their claims.

Section III uses risk rationalities to help understand transformations in rights-making and global governance in the decades after World War II. It then discusses how the term can help theorize carbon markets in terms of rationalities of risk.

Section IV then develops a framework to analyze carbon markets and rights-making, which I apply to four empirical cases in section V. Section IV introduces the concept of technologies of distance, which is related to the concept of risk rationalities and also be seen as capabilities or techniques of globalization. I employ the concept to think about the co-production of property rights and civil and political rights.

Section V presents four cases of rights-making: mapping the Lacandon rainforest, legislation to restrict offsets in California, design options for a grievance mechanism, and the formatting of the ideal stakeholder in REDD+ capacity building strategies. As in Chapter 5, the case material in this chapter comes from multiple sites of controversy over how to design a REDD+ architecture in California and Chiapas, which demonstrate: 1) how extant in-state capabilities are deployed to legitimize and adjudicate disputes over distributive justice between citizens and the state, and 2) how emergent transnational capabilities to administer procedural justice claims are being designed and implemented, in order to enable the flow of property (i.e. carbon credits) between states.

The discussion and conclusion respond to STS scholarship that underestimates the challenge of making markets across jurisdictions. A necessary response is to re-theorize the green economy in terms of the green political economy.

II. Theorizing Carbon Rights

The three parts of this section: develops the idea of carbon rights and why it calls for better theoretical, methodological, practical, and ethical approaches; discusses illegibility and kickback resulting from an overly narrow discussion about rights; and suggests that illegibility can be understood in terms of rights, risk, and reflexive modernization.

II.1. Ownership Rights and Emissions Trading (+)

Carbon property rights define the nature of the thing that is owned, who may own it, and the benefits that can be derived from it. They are a property right that confers “the claim to a benefit stream that the state will agree to protect through the assignment of duties to others who may covet or somehow interfere with this benefit” (Bromley 1991). When those benefits are derived from a carbon market (as opposed to, say, a performance-based fund), carbon rights impart no value as a transferable economic asset unless accompanied by other rights to engage in emissions trading. Whether defined as a publicly-owned commodity or private property, carbon rights in the carbon market, at minimum, format: 1) the ontological status of this thing called a carbon credit, 2) the identity of buyers and sellers, and 3) the practices through which buyers and sellers transact credits.

No universal definition of these three items exists. Government legislation and regulation and/or contracts may differentiate between the carbon itself (sequestered carbon), the trees or other biomass that stores the carbon (carbon sinks), and the potential of land to store carbon, for example, by managing the land to reduce deforestation (carbon storage potential) (Peskett & Brodnig 2011). Ownership can be either simple, by being tied to property rights over an existing resource (typically land), or usufruct, by

dissociating the rights to use a resource from the physical ownership of it. As discussed in Chapter 2, derivative rights related to emissions trading are immaterial in a purely national-level (or jurisdictional) approach—the government is the sole owner, buyer, and seller of credits, though may translate profits into benefits for local communities or other non-state actors in a manner determined through domestic policies or negotiations. Nested or project-based versions of REDD+, however, greatly complicate the interpretation of carbon rights because local communities, project developers, or other non-state actors can be designated as active market participants, which entails the creation of sub-national MRV systems, standards, reference levels, registries, safeguards, and a raft of additional technical, legal, and institutional mechanisms (Powell et al. 2002), the implications of which I will further detail in the coming sections.

It is extremely unlikely that a single set of rules defining carbon ownership and emissions trading rights will ever exist. A more likely scenario, borne out by the course of events in California, Chiapas and fellow GCF members, is the incremental stitching together of smaller markets through some mixture of consolidation and mutual accommodation mediated by non-state actors. A shift in emphasis from rights-making as something that takes place under the discretion of sovereign state authority to something assembled in tandem with the distributed making of in-state and private transnational forms of carbon authority presented in last chapter carries significant methodological, theoretical, and practical and ethical implications.

Methodologically, the study of distributed carbon rights calls for a multi-sited approach to look at how rules for owning and trading carbon are negotiated in, and harmonized among, fragmented, plural legal and institutional settings, levels of

governance, and state and non-state actors. Scholarship and high-level policy too often treat REDD+ rulemaking in a siloed manner, attending to how emissions trading rules are determined through existing international treaties and legal norms, international agreement on REDD+ safeguards, international and domestic carbon trading rules in buyer countries, or national rules and regulations in seller countries (Peskest and Brodnig 2011)—but seldom considering how transnational networks of state and non-state actors produce, and are produced by, the interaction of such factors.

Theoretically, it demands a more encompassing perspective, which understands carbon rights as something that cannot be understood in isolation from broader social, technical, and political dynamics. This means more than a simple appreciation that the rules for owning and trading forest carbon carry wider implications for land tenure, or that they require sophisticated technical expertise—though both certainly ring true. Rather, it demands an account of how the specific legal and technical ideas and practices—that translate ‘forests’ into ‘forest carbon’ and ‘forest carbon’ into an entity that can be owned and traded—shape and are shaped by basic normative and constitutional questions, such as the justification of state authority to enforce contracts, the balance between individual liberties and the collective good, and even fundamental distinctions between humans and the natural world.

Practically and ethically, it challenges granted assumptions about what is at stake in REDD+ and the Green Economy and, hence, problematizes the routines of participation, engagement, consultation, representation, deliberation, and so forth intended to ensure their efficacy and legitimacy. Carbon markets are particularly telling in this regard. At the level of international negotiations, they seek to transform the

original interpretation of ‘common but differentiated responsibilities’ inaugurated in Rio, in which the countries of the Global North pledged to reduce emissions in recognition of their historical responsibility for instigating the climate crisis, and the concomitant right for the countries of the Global South to likewise lift themselves from poverty to prosperity. The Green Economy and its recreation of post-Kyoto carbon markets through REDD+, by contrast, aims to transform past geopolitical settlements into the win-win utilitarian logic of the market, where responsibility is cast not as an inalienable categorical imperative but as a fungible commodity to be bought and sold in pursuit of minimal individual costs and maximal global good.

At the level of local capacity building, design, and implementation, a multi-sited take on carbon rights calls attention to the connection of practical and ethical problems with technical efforts to measure and account for carbon on a separate track from benefit-sharing and legal and institutional reform. According to the Center for International Forestry Research (CIFOR), “clarity over tenure and resource rights in tandem with the carbon asset is critical to prevent disruptive conflicts between competing stakeholders within REDD+ countries” (Loft et al. 2015). Although I do not take the position that conflicts must necessarily be avoided, I do agree that carbon rights must be considered in tandem with existing tenure and resources rights, as well as civil and political rights, with the additional qualification that such considerations must also extend to include multiple sites, scales, and private and public actors.

In most REDD+ countries, carbon rights, which can be created through new legislation or interpreted through existing legislation, remain in a state of legal ambiguity. Meanwhile, measurement and accounting systems are moving forward, amid a lack of

clarity on ownership, emissions, and tenure rights. This becomes an issue because, as discussed in the previous chapters, the scale these systems are designed for also entails whom they are for.

These problems are of special concern to forest-dependent poor and marginalized groups, who stand to gain or lose the most. A long-running debate has revolved around whether land and governance reforms, such as enabling the poor to access the legal system or granting title to the landless, should be a pre-condition or outcome of performance-based payments for REDD+. Some argue that fair and equitable REDD+ is impossible unless the rights and interests of the poor are first secured because corrupt governments or well-moneyed corporations will have an incentive to dispossess the poor in pursuit of a newly valuable asset. Others say that with proper oversight, REDD+ can be vehicle for empowering local and indigenous people by helping them to secure title to their land and empowering them to become carbon proprietors in their own right. These are but two generalizations in an immensely complicated and situation-specific debate that I can only point to here.

This is not a problem that cannot be satisfactorily resolved in the abstract. To do so empirically, I argue, requires a different theoretical and methodological approach to understanding how carbon rights are created, distributed, and harmonized in the authorization and production of carbon territory. In the following section, I offer an example of how unforeseen conflicts arose over expert recommendations for California's REDD+ proposal, in large part because of too-narrow starting assumptions about what carbon rights entail. I then present an alternative way of approaching the problem through the concepts of reflexive modernization and risk rationalities, before offering four

illustrations of how this theorization can help us think through carbon rights in and between California and Chiapas.

II.2. The Regulator's Dilemma: Rights and Rights-claimers Made Present but Illegible

An example of how the unexpected eruption of rights-claims can unsettle a presumably legitimate and well-thought process comes from the experience of the REDD+ Offset Working Group (ROW). The ROW released its draft recommendations in February 2013. Over the next several months, the group solicited public responses to its draft recommendations,¹⁷² holding a five-month comment period and three open workshops at major universities in California.¹⁷³ What the ROW heard in response expressed a depth of skepticism and division unheard amid the near unanimous support voiced to the ARB when it first convened a public workshop on REDD+ in July 2010 (Leuders et al. 2014).

While groups like TNC and EDF reiterated stalwart support for the proposal in 2013, a wave of newfound opposition swept forward from human rights, conservationists, and environmental justice groups. To complicate matters, California business groups and political parties were themselves divided, further blurring conventional lines between local and global, conservative and progressive, domestic and foreign.

The most ardent of these wrote to “join its voice to the international outcry against the inclusion of REDD in the State of California’s Global Warming Solutions Act”,

¹⁷² ‘Public Comments’, accessed September 2013 on Greentech Leadership Group website: <http://greentechleadership.org/programs/redd-offset-working-group/public-comments>

¹⁷³ ROW convened three public workshops in California on monitoring, verification, and reporting at Stanford University on 5 February; safeguards at the University of California, Davis on 26 March; and legal and institutional issues on international linkage at University of California at Los Angeles on 5 April.

denouncing carbon trading and the green economy “as a thinly-veiled, wicked, colonialist planet grab.”¹⁷⁴ Others attempted to offer constructive criticism, citing both in and beyond Chiapas a history of human rights abuses, vexed payment for ecosystem service projects, and concerns over technical uncertainties and enforcement. Altogether roughly one-third of the 34 comments staunchly opposed California’s proposal representing about three-quarters of the total 200 pages submitted to the ROW.

The conflicting claims presented a regulator’s dilemma (Weinberg 1986). Shortly after the ROW forwarded its final recommendations to ARB Chair, Mary Nichols, in July of that year, Chiapas’ new Governor canceled the PACT. The critical response did not kill the proposal, but it did damp the enthusiasm expressed in ARB’s 2009 Preliminary Draft Regulations, which had said California was “hoping to design a model international offsets program that will pave the way for the post-2012 international climate change agreement.”

Upon the release of the ROW recommendations, carbon market supporters lauded the “blue-chip scientific panel” as offering a “blue print for California REDD”, but even

¹⁷⁴ Global Alliance of Indigenous Peoples and Local Communities on Climate Change against REDD+ and for Life. Signed by:

Latin America

Marlon Santi Gualinga (Kichwa)

Sarayaku, Ecuador

Asia

Leonard Imbiri

General Secretary of Dewan Adat Papua and Executive Director of YADUPA West

Papua

Africa

Nnimmo Bassey

Alternate Nobel Peace Prize Co-Founder No REDD in Africa Network

North America

Tom BK Goldtooth

Indigenous Environmental Network, Minnesota

the most enthusiastic of these supporters came to highlight contentions over indigenous rights and other issues.¹⁷⁵ If it was a blueprint, it was one that required careful accommodations by ARB and its counterparts in Chiapas and Acre.

The process did not anticipate the acuteness of the opposition—this despite the fact that insiders recognized the critical need to address safeguards and potential negative effects on indigenous peoples and rural communities. The ROW dedicated one of three public workshops to these issues and gave them extensive coverage in its recommendations. Meanwhile, in California, the ARB received concerns from the environmental justice groups in its public review process; and in Chiapas, SEMAHN and collaborating conservation organizations made safeguards a central issue for the Technical Advisory Committee for REDD+. ROW members later reflected that both grassroots and business groups should have had an earlier place in the advisory process but that the group did its best to take into account dissenting views in the fully open public workshops and comment period.

A sympathetic observer might explain the oversight by underscoring that the ROW's goal was to provide a general blueprint for designing a REDD+ market for general consideration of California, Chiapas, Acre or any entity interested in pursuing jurisdictional REDD+, not to offer a political-social diagnostic of the partnership. A cynic might attribute the exclusion to willful negligence, pre-determined by the material interests in play.

¹⁷⁵ Ecosystem Marketplace. "Scientific Advisory Panel Offers Blueprint for California REDD". 19 July 2013. available at:

http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=9846

Neither account, however, adequately explains why the ROW took it upon itself to provide general rather than tailored advice, and drafted the specific recommendations it did, for the MOU mandating the group stipulates the group only, in the furtherance of coordination and collaboration between the Parties, develop recommendations:

to begin the process for developing a state to state sectoral REDD linkage recommendation that will provide the foundation for an eventual submittal to the California Air Resources Board, as defined in California's cap and trade program (CCR, Title 17, Sections 95991-95997) and to other necessary state entities to approve such a recommendation amongst the Parties.¹⁷⁶

The outcome was symptomatic of an overall partnership that had failed to make legible the concerns of indigenous and environmental justice groups in both California and Chiapas—an outcome that proved to be in the interest of neither Party in moving the market forward in the near-term, nor the broader ambition to lead by way of example the route to a more inclusive and effective version of sub-national jurisdictional REDD+.

To account for the illegibility of rights-claims that came late and only partially into the view of regulators and expert advisers, I build on Dean Mitchell's account of Ulrich Beck's sociological notion of the risk society, read through the analytics of government.

¹⁷⁶ http://www.gcftaskforce.org/documents/MOU_Acre_California_and_Chiapas.pdf

II.3. Rights, Risk, and Reflexive Modernization

In his 1992 book *Risk Society*, Beck famously offered the term ‘reflexive modernization’ to replace an unhelpful dichotomy between modernity and post-modernity with a synthetic account of two phases of ‘where scientific and technical solutions continually fold back to become the problems they were meant to solve. As one consequence, sub-political disputes appear “outside and beyond the representative institutions of the political system of nation-states” (Beck 1996, also see Beck 1999) in expert advisory processes like the ROW, threatening to unsettle the authority of previously sacrosanct claims to objective scientific knowledge.

The history of carbon markets belies such dynamics (MacKenzie 2008). As Chapter 2 recounts, each technical proposal leading up to REDD+—avoided deforestation projects, national-level compensated reductions, nested accounting, as well as the progression from RED to REDD+—was introduced to solve previous technical and political obstacles, even while introducing new ones of its own. Perhaps more striking, social and environmental safeguards became central to the international REDD+ negotiations only after a concerted push by indigenous and social justice groups to redress an agenda they felt had become dominated by matters of measurement, accounting, and finance. The ROW was fully aware of this shift, writing in its final report, “Environmental and social safeguards have moved in recent years from the periphery to the center of the debate on REDD+.”

The unanticipated grassroots blowback in California and Chiapas despite an abstract acknowledgement of explosive social justice issues, and subsequent rearguard reaction, is not an aberration but a reproduction of this ongoing reflexive dynamic of

reflexive modernization, which continuously renders emergent claims and claims-makers present but illegible.

One sympathetic submission on the ROW recommendations captured the situation so bluntly and clearly I quote it at length:

Although each decision [about how to design jurisdictional REDD+] has pros and cons, well-reasoned arguments have been made for each decision point...These ROW recommendations represent a logical next step in a progression of policy initiatives that have grappled with the problem of attenuating severe forest loss in developing tropical countries. For over a decade intense discussions on REDD+ have proceeded at the international level, at the technical discussions of voluntary standard-setting bodies, at environmental and corporate board meetings, and in the meeting houses of local forest stakeholders. In the absence of international agreement, it is incumbent on national and sub-national governments to keep pushing the envelope and testing different policy approaches from the bottom up.¹⁷⁷

The statement picks up many of the themes addressed in this dissertation: decision-making amid sharply divergent values, the reflexive progression of policy, the distribution of standard-setting and other technical matters among state and non-state actors at multiple levels of governance, and the imperative of policy innovation and sub-national leadership in the face of intractable global problems. The author characterizes

¹⁷⁷ Public Comment to the ROW. Andrea Tuttle. Pacific Forest Trust. 7 May 2013.

the ensuing regulator's dilemma as not merely over a complex problem but a wicked one (Rittel and Webber 1973), in which values clash and the solution defies any one logic:

Because REDD is complex and crosses social, economic and environmental dimensions, there is a vast array of policy choices that can be made, and *fierce arguments can be mustered for and against any particular combination...*It is recognized that implementation of this – or any – REDD+ package is *not risk-free*. No one has ever done this before, at least in the context of a government-to-government agreement. [Emphasis added]

The above passages echo the angst of reflexive modernization, where urgent decisions to manage risk must be made yet, at the same time, are made impossible by modernity's self-confounding dilemma. Beck, a constructivist on identity, power, and so on, is a realist on risk. Nuclear holocaust, global climate change, pervasive and scarcely detectable toxins all present material risks generated as byproducts of science and technology. In contrast to the insurable hazards of industrial society, the threats of the risk society are quintessentially incalculable.

At this juncture, Dean's interpretation of the risk society through the analytics of government is illuminating. Here, Dean deviates from the realist view not because he denies that risks may be real but because such a view does little more to further our understanding of how specific ways of knowing risk, or 'risk rationalities', align with certain ways of ordering politics and society. To read risk society against risk rationalities, Dean draws on historian and philosopher François Ewald's analysis of

insurance practices. In the language I have adopted in this study, insurance is a particular capability for calculating risk and brings with it basic constitutional assumptions about where risk comes from, whose rights it threatens, who carries responsibility for minimizing that threat, and how to formulate a just response when those rights and responsibilities are violated.

In this sense, social insurance is a mode of calculation—prefigured in accounting techniques and corporate charters of early modern maritime expeditions and later refined in industrial society—to tame what were previously incalculable hazards in order to make new forms of social association and economic activity possible. Risk rationalities are therefore a political imaginary of a society forced to confront risks it did not understand and a political technology for overcoming the mores of a pre-industrial society where the traditional rights and responsibilities of, say, a vassal to his lord or parishioner to the Church constrained the depersonalized relationships necessary for a modern economy. Risk rationality, according to Dean, is the organizing principle and capability “to render what is felt to be incalculable, what is understood to have no price, amenable to calculation and monetary compensation” (Dean 2009). Social insurance is thus an instance of a general impulse to calculate and manage risk, to which Dean adds other rationalities, such as epidemiological risk, case-management risk, and clinical risk. Each constitutes a political technology, configuring agency, expertise, and identity in order to maximize social solidarity and make modern forms of social life possible that past orders would find nonsensical and probably immoral.

The passages above likewise reflect a rationality to deal with global environmental risks, imploring the ARB to fulfill its duty to organize an imperfect but

hopefully better way of doing things, made possible, legible, and legitimate through the instrumental rationality of the market.

In the case of social insurance, the political technology includes: financial techniques to calculate and remunerate risk; a moral sensibility for how individuals can conduct themselves responsibly amid the inherent dangers of modern life; and techniques for indemnifying damages and administering justice (Dean 2009). Carbon markets offer an analogous set of techniques and sensibilities, including: standards and MRV systems to account for carbon; rules and regulations to define carbon property rights; a moral commitment to voluntary action for the collective good through the market; and liability regimes and social and environmental safeguards to protect the contractual rights of market participants. Thus the author stresses that:

REDD+ is [not only] crucial to reducing greenhouse gas emissions, but it also *represents a much larger social commitment* to sustain forest ecosystems and the people dependent upon them. [Emphasis added]

This she understands to be a collective moral undertaking:

Implementation will demand *shared responsibility, discipline, risk-taking, and constructive commitment* on the part of all parties. Social and environmental safeguards must be as stringently monitored as the carbon and benefit sharing schemes. Adjustments must be made as lessons are learned, and enforcement applied to violators. [Emphasis added]

Like social insurance, carbon markets are a collective endeavor premised on a transformation of both technical practices and moral understandings of the rights and responsibilities of citizens vis-à-vis the state and each other. Yet carbon markets also carry a quite different set of assumptions and practices, which are characteristically global in nature. Just as the rationalities of industrial society served to reform fragmented forms of territory, authority, and rights into a sovereign government unified over a national people and place, carbon markets potentially signal a contemporary transformation of a form of global governance premised on the nation-state to an order that, like the clamoring dissent in California and Chiapas, is present but illegible.

III. Putting the Pieces Together: Carbon Rights, Risk Rationalities, and Reflexive Modernization

III.1. Transformations of Rights and Governance

Fear is a powerful motivator of individual and community action. Quantified as risk, fear becomes a means to organize entire societies, turning it into something manageable. At this point, it becomes possible to subordinate fear to its opposite: want. By calculating risk, rationalities like social insurance encouraged people to engage in pursuits they might otherwise avoid, paving the way for more complex forms of social organization and the rise of modern liberal democracies. When it comes to global threats like climate change, global treaty-based negotiations have not had the parallel effect of forging a world government and citizenry.

One reason is because people do not fear or want the same things. The fervor around REDD+ in California and Chiapas dramatizes the difficulties extant institutions of

public representation face in containing transnational disputes. In principle, this is not an insurmountable challenge for the imaginary of international security embodied in the founding principles of the UN System. Representative institutions, economic prosperity, and public mission had delivered national unity from vying principalities and promised to achieve a worldwide counterpart through the cooperation and compromise of the Member States of the UN.

Those principles draw on President Franklin D. Roosevelt's 1941 State of the Union speech, in which the wartime leader aspired to a world founded on four freedoms for people "everywhere in the world":

In the future days, which we seek to make secure, we look forward to a world founded upon four essential human freedoms.

The first is freedom of speech and expression—everywhere in the world.

The second is freedom of every person to worship God in his own way—everywhere in the world.

The third is freedom from want—which, translated into world terms, means economic understandings which will secure to every nation a healthy peacetime life for its inhabitants—everywhere in the world.

The fourth is freedom from fear—which, translated into world terms, means a world-wide reduction of armaments to such a point and in such a thorough

fashion that no nation will be in a position to commit an act of physical aggression against any neighbor—anywhere in the world.

At the UN General Assembly in Paris on 10 December 1948, the four freedoms became enshrined in the preamble to the Universal Declaration of Human Rights (UDHR).¹⁷⁸

Fresh with the wounds of the Second World War, the Declaration laments that:

disregard and contempt for human rights have resulted in barbarous acts which have outraged the conscience of mankind, and the advent of a world in which human beings shall enjoy freedom of speech and belief and freedom from fear and want has been proclaimed as the highest aspiration of the common people

However, the national representative institutions that were to act as a focal point for global government of “the common people” cannot support the weight of an era where an uncommon mix of legitimate and capable actors has become greatly diversified and their numbers multiplied many-fold. Global political theorists cite a resulting democratic deficit (e.g. Keohane 2002), where the contending fears and wants of people never so directly brought into contact with each other exceeds the ability of extant institutions to register them and the claims they make.

Beck associates the democratic deficit facing national and international institutions with the yet deeper, structural transformations and forced transnational encounters issuing from reflexive modernization. He calls this process

¹⁷⁸ UDHR. available at: <https://www.un.org/en/documents/udhr>

cosmopolitization—“-ization” for being part and parcel of the ongoing dynamics of globalization and reflexive modernization, which together unweave a world ordered around the centripetal logic of the nation-state. Even as these processes have consolidated certain decision-making powers vertically at the level of international treaty-making and specialized institutions, they have dispersed others horizontally, for example, through multinational supply chains and transnational social movements. The lines of authority between markets, civil society, and the state are growing murkier and can be understood neither in purely vertical or horizontal terms. Older channels for claiming rights are being challenged along multiple dimensions: entitlement and status, structure of representation, accountability, legitimacy, scales of governance, orders of governance (Swyngedouw 2005).

Nevertheless, the four freedoms live on in the foundational documents for the international order of the 21st century. The UN Millennium Declaration¹⁷⁹ invokes them, as do discussions towards the post-2015 Development Agenda¹⁸⁰ that emerged from Rio+20. The worlds of 1948 and 2015, however, are far apart. Over the ensuing half-century, the interplay of reflexive modernization and cosmopolitization have wrought foundational rights and freedoms, and the responsibilities to protect them, to mean something quite different today than they were in the immediate wake of the War.

New interpretations of rights and freedoms have created additional demands for the legitimate exercise of global power. The UDHR stresses that “human rights should be protected by the rule of law”, secured through the Member States and their cooperation with the UN. In addition to the ‘first- and second-generation’ rights and freedoms

¹⁷⁹ <http://www.un.org/millennium/declaration/ares552e.htm>

¹⁸⁰ http://www.un.org/millenniumgoals/pdf/Think%20Pieces/9_human_rights.pdf

invoked in the UDHR, the Millennium Declaration asserts a number of ‘third-generation’ ones,¹⁸¹ stating, “We consider certain fundamental values to be essential for international relations in the twenty-first century”, including equality, solidarity, tolerance for nature, and shared responsibility. Moreover, the Declaration emphasizes cooperation among state and non-state actors, resolving “to develop strong partnerships with the private sector and with civil society organizations in pursuit of development and poverty eradication.” What the Millennium Declaration and its post-2015 successor cannot do alone is translate that vision for a world secure in these fundamental rights and freedoms into action. The green economy and its tools seek to do just this.

III.2. The Risk Rationality of Carbon Markets

If carbon markets, REDD+, and the green economy are political world-making endeavors, then what is their relationship to cosmopolitization? Here the concept of risk rationalities comes in useful. Dean describes the process of problematization, in which a governing rationality like social insurance is a means of “questioning and interrogating past, present and potential alternatives and may itself be subject to such questioning and interrogating.” Often this happens through the incorporation of rationalities into broader governing regimes by way of programs, or “explicit, planned attempts to reform or transform regimes of practices by reorienting them to specific ends or investing them with particular purposes.”

¹⁸¹ Karel Vasak. (1977) ‘Human Rights: A Thirty-Year Struggle: The Sustained Efforts to give Force of law to the Universal Declaration of Human Rights’, UNESCO Courier 30:11, Paris: United Nations Educational, Scientific, and Cultural Organization.

The tie between risk rationalities and the problematization of programs is useful for understanding carbon rights for several reasons. First, it calls attention to the distinction between jurisdictional REDD+ government programs for the compliance market and project-based REDD+ initiatives developed in the voluntary carbon market, underscoring the constitutional significance of government programs in the production of legitimate public authority and rights-bearing subjects in a given territory. Second, it is a way to understand programs to build sub-national carbon markets as problematizing national and international programs to govern the global environment, which are characterized as both creating a democratic deficit and a tragedy of the global commons due to a lack of clear property rights to pollute and market to trade those rights. This dovetails with the idea that the emerging capabilities of sub-national governments and non-state actors to build territory, authority, and rights come into being by extending and reorienting extant international capabilities like REDD+ rulemaking in the UNFCCC. Third, it points to the exercise of private entrepreneurial authority, for example, through standards and accounting innovations to nest offset projects in jurisdictions, as the problematization of the centralization of state decision-making power at any level.

In addition to the three points above regarding global environment governance, carbon markets problematize the internationalist programs of world government embodied in the UDHR and premised on the sovereign rule of the nation-state over its territorial subjects. In liberal forms of government, the balance between individual rights and the collective good is mediated through national institutions tasked to represent society and act on its behalf. Carbon markets, by contrast, can be described as a global extension of ‘advanced liberal government’ (Rose 1993, Oels 2005), in which:

the social will no longer be inscribed within a centralized and coordinating state; it will be reconfigured as a set of constructed markets in service provision and expertise, made operable through heterogeneous technologies of agency, and rendered calculable by technologies of performance that will govern at a distance (Dean 2009).

I use the word ‘extension’ here to emphasize problematization as a process that:

- 1) *Reorients* extant programs towards global environmental problems (e.g. passing laws like the Global Warming Solutions Act in California or Climate Change Adaptation and Mitigation Legislation in Chiapas to incorporate climate change goals into economic policy at the state-level);
- 2) *Reaches* across multiple levels of governance and kinds of actors (e.g. nesting private local REDD+ projects in national and international carbon accounting frameworks); and
- 3) *Relies* on developing new and harnessing extant capabilities (i.e. ‘technologies of distance’ in the quote above, which parallel the ‘techniques of globalization’ described in the introduction to the dissertation) for coordinating property rights or civil and political rights in and across political jurisdictions (e.g. devising financial instruments to attract private investment for offset projects eligible under international rules sanctioned by the Clean Development Mechanism).

In the following section, I elaborate what this means in regard to the risk rationalities of carbon markets, and develop an analytical approach for understanding their connection to the production of carbon rights, which I then illustrate with four examples related to REDD+ in California and Chiapas.

IV. A Framework for Analyzing Carbon Rights and the Transformation of Global Governance

Recalling the introduction to this chapter, my purpose is to bring civil and political rights into conversation with property rights, territory, and authority as reconstituted at the sub-national level through REDD+ and carbon markets. In the introduction I proposed that the production of carbon rights, in regard to both property rights and civil and political rights, is shaped by the production and authorization of carbon territories. The subsequent sections explained that rights-making in carbon markets is a distributed process that must be theorized across multiple sites. Before proceeding to explore the production of carbon rights in and between California and Chiapas in section IV, I develop an approach to link rights-making to the techniques, practices, and rationalities for tying carbon markets to political territories.

The following sub-sections: 1) apply the concepts of problematization and risk rationalities to carbon markets, describing their relevance to the main objectives of this chapter, and 2) lay out the subsequent empirical inquiry into rights-making in Chiapas and California in terms of transnational and in-state capabilities that enact market rationalities through ‘techniques of globalization.’

IV.1. Risk Rationalities and Problematization in Carbon Markets: Key Questions

Here, I elaborate a methodological approach that draws on the preceding theoretical discussion to investigate the relationship between market-making and the reconfiguration of territory, authority, and rights. This has three objectives. First, I seek to demonstrate the polyvalence of market rationalities to show how carbon rights are a function of transnational expertise and authority, coordinated among and worked through specific socio-political situations. As shown in the previous chapters, expertise for knowing and governing carbon markets can be configured in different ways, towards different ends and organizing logics, which means that carbon rights are indeterminate as well.

Second, whereas governmentality scholars are concerned with how knowledge to calculate risks shape the social order, they do not take the second step to examine how that knowledge is produced. To avoid technological determinism courted by such an approach, and retain an openness to the polyvalence of risk rationalities, I attend to the legal, political, institutional, cultural, and epistemic repertoires that produce and authorize expertise in specific sites.

Third, I argue that market design has implications for procedural and distributive justice but that these issues are usually segregated and made illegible by being treated in separate non-technical venues.

Fourth, I aim to show that the polyvalence and justice implications of market-making highlight the importance of designing institutions for expertise and public representation in tandem. Addressing the democratic deficit must therefore move past sterile, deterministic appeals to market mechanisms or, conversely, against the ‘neoliberalization of conservation’, in an effort to grasp not only the effects of governing

rationalities but also the design processes that steer and select those rationalities towards some ends and away from others.

In order to advance an analytical approach to address these four objectives (re the indeterminacy of market logics, politics of knowledge, justice implications, and democratic imperatives for knowledge- and decision-making), I offer four illustrations of rights-making in California and Chiapas (Section V). The illustrations represent four key moments of market design in the two states.

IV.2. Transnational and In-state Capabilities as Techniques of Globalization

To organize the inquiry, I do two things. First, I capture a range of sites that must stabilize individually and in relation to each other for the market to function. I provide two examples (a legislative challenge in California and executive power in Chiapas), which center on questions about distributive justice and negotiation of political citizenship and the responsibility of the state to its subjects. The two other examples (a grievance mechanism and social and environmental safeguards) focus on procedural justice, namely the design of administrative mechanisms for giving forest people a voice in market design and for legitimizing the market by providing recourse to individuals or communities who suffer negative consequences from market-related activities.

Second, in order to center the analysis on knowledge-making and rights-making, each case explores ‘technologies of distance’ (also see Porter 1995). In governmentality studies, technologies of government are a rubric for the various techniques and practices used to guide human behavior in accord with a particular governing rationality (e.g. statistical tables and methodologies for calculating insurance premiums for different

categories of the population). Technologies of distance (Dean 2009) are a subset of these. They are used when the governed are spatially or socially removed from the governor. Such techniques and practices are prevalent in networked, delegated, or orchestrated arrangements. Technologies of distance are also used to encourage separated individuals to conduct themselves in a manner that leads to desirable behavior across a population or marketplace.

Technologies of distance correspond to the ‘techniques of globalization’ described in Chapter 1. These include the accounting standards, MRV systems, liability protocols and other rules and metrics needed to circulate carbon credits in cross-border markets. I use the concept to avoid an a priori distinction between property rights versus civil and political rights. This follows STS’s concern with understanding how some things come to be defined as ‘natural’ and amenable to scientific study, while others are labeled ‘social’ and therefore subject to political judgment. Applied to rights, this calls for an approach attuned to the co-production of property rights and civil and political rights.

The concept helps us think about how different kinds of rights are produced together and have consequences that often extend beyond their architects’ intent. It also prompts us to consider the opposite case, where the intent is not what it purports to be. This, for example, is what environmental justice groups often claim when they say that safeguards amount to a ‘box-checking’ exercise to expedite projects without the true interests of local communities at heart. We will see other examples of this kind in the cases.

Technologies of distance fall into two types—technologies of performance and agency. These techniques work together to construct the two distinguishing features of carbon territory (Chapter 4): land as a political-economic resource (with implications for carbon property) and terrain as a geo-political asset (with implications for civil and political rights).

Technologies of performance include techniques such as benchmarking, assessment and evaluation methods, audit procedures, and other metrics for promoting and gauging the behavior of individuals or organizations in line with widespread standards. They may also empower central authorities to steer delegated or orchestrated relationships, or strengthen the cohesion of a network by disseminating shared expectations for how things should be conducted. Technologies of performance seek “to penetrate the enclosures of expertise fostered under the welfare state and to subsume the substantive domains of expertise to new formal calculative regimes” (Triantafillou 2004).

In regard to carbon property rights, technologies of performance are related to forest carbon (or carbon sequestration potential) within a delineated land area and translate that carbon into a tradable economic asset. They extend along the entire production chain, from best practices in project design and implementation to the verification and validation of project offsets to the monitoring, reporting, and verification systems to carbon accounting standards. Legal and institutional capabilities to make contracts for REDD+ projects or to buy and sell carbon credits also fall in this category.¹⁸²

¹⁸² Triantafillou (2004) distinguishes technologies of performance from: 1) contractual technologies and norms, and 2) technologies of accountability (also see Michael Power’s (1997) book, *The Audit Society*). For simplicity’s sake I follow Dean to contract their

Technologies of agency refer to surveys, opinion polls, focus groups, citizen panels, health promotion campaigns, community policy, environmental impact assessments and other tools to mobilize citizens in decision-making. A critical goal of technologies of agency is to fashion individuals who are responsible for his or her actions. One way they do this is by facilitating, with or without the involvement of public authorities, the formation of “clusters of stakeholders in loose, issue-based networks that may cut across national boundaries” (Triantafillou 2004).

Technologies of agency play a role in carbon markets by extending an institutional space for individuals or local communities to participate in the design, implementation, or review of market-related activities. Examples include the inclusion of civil society groups in the drafting of REDD+ safeguards or their interpretation in specific settings. Technologies of agency also may empower citizens to voice grievances, making them a potential resource in the administration of procedural justice.

V. Building Capabilities for Carbon Rights

This section applies the preceding theoretical and methodological discussion to four cases of rights-making in California and Chiapas. The cases are intended to illustrate of how the concepts of technologies of performance and agency can be used to understand co-production of property rights and civil and political rights in market-making. Each example begins with a case description and concludes with a summary of what it tells us about three key questions repeated below, which may inform future research:

meaning here.

Design Choices for Carbon Territory (Land + Terrain)

1) *In-state*: How do local priorities shape market design and rights-making within a political jurisdiction?

2) *Out-of-state*: What effect do market design choices taken within a political jurisdiction have on rights-making in foreign jurisdictions and/or the coordination of activities across jurisdictions?

3) *Authorization and Expertise*: Which actors and institutions are empowered with the authority and expertise to make these decisions?

V.1. Extant In-state Capabilities

V.1.1. MRV Systems, Political Legibility, and Illegality in the Lacandon

This case is about the Governor Sabines' proposal to map deforestation in the Lacandon rainforest as part of his signature REDD+ project, the Pact for the Respect and Conservation of Mother Earth (PACT).¹⁸³ (See Chapter 5 for a detailed discussion of the initiative.) The sudden announcement of the project was intended to jumpstart carbon mapping in the region in order to prepare Chiapas for the coming REDD+ market. The lure of early action funding promised an immediate benefit to what Sabines described as

¹⁸³ Pacto por el Respeto y Conservación a la Madre Tierra

an urgent global problem to be solved by payments to local indigenous guardians of the forest.¹⁸⁴

Here we directly support the owners of the land. We are not hiring rangers or guarding the forest but are betting that the owners of the land will protect it.¹⁸⁵

The PACT lacked any of the basic carbon accounting measures required of REDD+. Therefore one of the first steps was to establish a state-wide MRV system, with the PACT at its center. The Feasibility Study conducted by Conservation International and in-state affiliates discussed in the previous chapter was to start this process.

In short order, indigenous groups voiced their dissent. It did not help matters that some accused Conservation International of colluding with the army to evict illegal settlers in the forest.¹⁸⁶ An official from SEMAHN, the state agency charged with seeing through the PACT, remarked that three-years of consultation and trust-building with communities in the Lacandon went “to the garbage.”

Meanwhile, forest communities were themselves divided, with landless villagers decrying the PACT as a facade to extend state control into the forest, citing the abrupt withdrawal of medical services from a remote, irregular settlement in the Montes Azules reserve called Amador Hernández. Villagers broadcast a dissenting letter through their

¹⁸⁴ <http://www.jornada.unam.mx/2011/05/17/politica/004n1pol>

¹⁸⁵ “Aquí apoyamos directamente a los dueños de la tierra, no estamos contratando a guardabosques o guarda selvas, estamos apostando a que los dueños de la tierra van a resguardar”

¹⁸⁶ Hermann Bellinghausen, “Conservation International, Trojan Horse of US Government and Transnational Corporations: Capise”, La Jornada, Mexico City, 7 June 2003

local affiliates in San Cristobal de las Casas like Friends of the Earth Mexico (Otros Mundos), who disseminated the protest through global grassroots networks such as the Global Alliance of Indigenous Peoples and Local Communities on Climate Change Against REDD and for Life (No REDD+). The letter read:

This past month, the governor of Chiapas traveled to the neighboring Lacandóna Community to make the first payments of the state-run REDD program; as he doled out the money, he told the beneficiaries that it should not be considered as a gift, but as a payment to guard the border against their neighbors, that is, us.¹⁸⁷

The state did not engage the claims directly, instead working through stakeholder engagement processes established under its REDD+ program, such as the Chiapas Technical Advisory Committee (CTC) for REDD+. In a government bulletin, Governor Sabines presented REDD+ as an opportunity to protect the forest against “invasores” (invaders) (Fadnes 2011):

Man is the enemy of the jungle. Let’s be friends of the jungle. It is unique. There is nothing like it. None should invade it. He who attacks this jungle attacks the planet.

The invaders here are illegal settlers in the Lacandon. Another bulletin echoes the Governor’s support for the Lacandon Community as the rightful guardians of the forest:

¹⁸⁷ I use the translation from: <https://zcomm.org/zmagazine/turning-the-lacandon-jungle-over-to-the-carbon-market-by-jeff-conant/>

out of the 170 people that were invading a reserve, today only 7 remain—but I insist—it is everyone’s responsibility, and you who are the owners of the reserve are the most committed to conservation". this he said to indigenous people from Frontera Corozal, who are "legal" and "receive payment for their environmental services" (Figure 8).

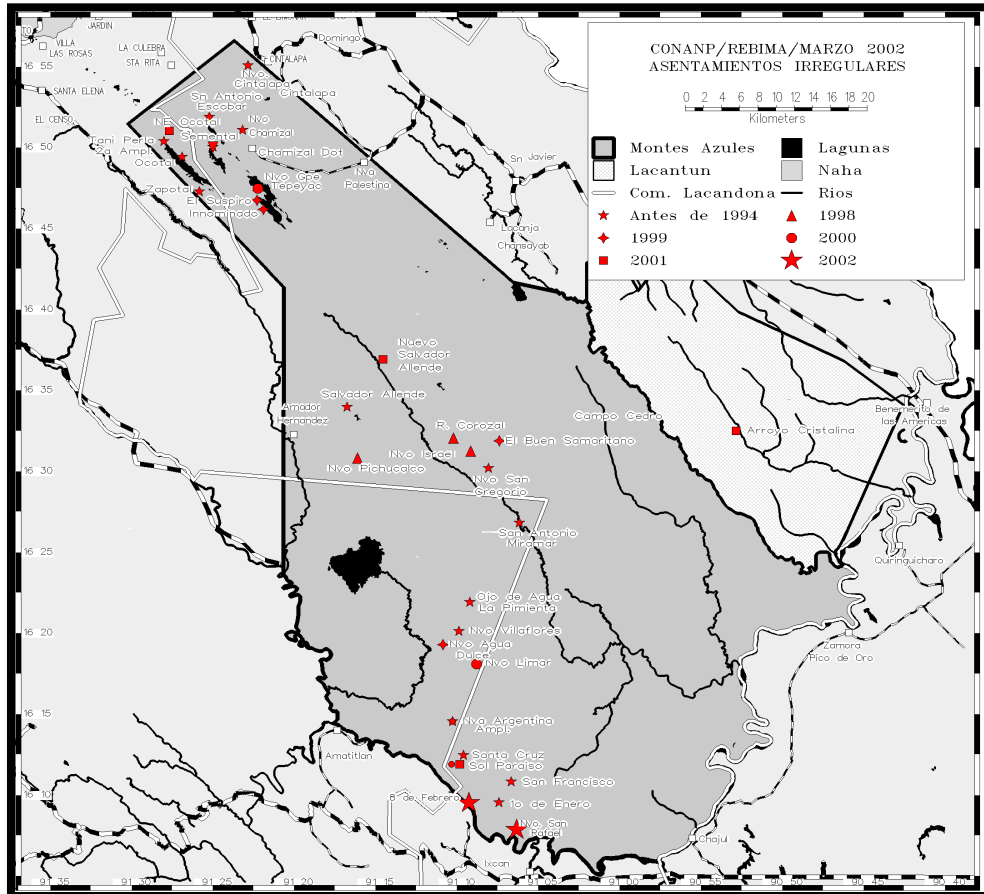


Figure 8. Illegal Settlements in the Montes Azules Biosphere Reserve.

Sabines attributed small-scale maize cultivation as the chief culprit, rather than, say, higher-level economic drivers or inadequate agrarian reform. Saving the rainforest, he said, required better policing of the forest to stop irregular settlers from growing corn

because it "damages the planet" and will cause "the reserve, the great richness of its inhabitants" to "run out."

The Governor tied carbon mapping in the Lacandon to broader development plans for the region. In addition to delivering direct payments to the rightful forest guardians for protecting the forest against invaders, he promised that illegal settlers would not face forced relocation. If they so chose, the state would support irregular settlers' voluntary relocation into one of the 6 to 25 pre-fabricated settlements planned under the state's Sustainable Rural Cities Initiative, where they might find work with one of the oil palm or jatropha plantations being developed to make Chiapas into a biofuels leader. Grassroots groups saw the move as a ploy, designed to legitimize the eviction of already marginalized communities by herding them into shoddy structures, with inadequate support and the impossibility of continuing life as self-sufficient farmers.

To make sense of the complex rights-making in play, it is crucial to account for the historical rifts between the state and land insecure indigenous people in Chiapas. The agrarian reforms that brought the ejido system to much of Mexico after the 1910 Mexican Revolution overlooked this part of the country. Chiapas covers a territory of 74,415 km² of Mexico's southernmost state bordering Guatemala and the states of Tabasco, Oaxaca, Veracruz, and Campeche. The Lacandon rainforest is in the eastern lowland area of the state. 4.8 million people live in the state, including 1.5 million indigenous people composing 11 distinct ethnic and linguistic groups. It has the second highest rates of poverty and malnutrition in Mexico, with over a quarter of the population lacking access to basic health and education services.

From the early 16th century, Spanish colonizers through violence and disease depopulated the Selva Lacandona of its Mayan inhabitants. One group called the Caribes, later known as the Lacandones, migrated into the forest from neighboring Campeche sometime in the 18th century. The government allowed the Lacandones to stay and few others moved into the region until the mid-20th century, when a series of land reforms and political crises propelled settlers, in particular Mayans belonging from the Tzeltal, Tzotzil, Choles, and Tojolobal groups. The promise by national authorities to grant settlers title further encouraged the settlement and by 1960 thousands of peasants seeking better lives began to set roots in the region—many from the highland regions of the state where de facto indentured servitude persisted in large landholdings since colonial times.

In 1971, President Luis Echeverría issued a presidential decree for the largest restitution of land in post-revolutionary Mexico (De Vos 2002). The decree granted 66 heads of Lacandón families (representing 6% of the people living in the region) exclusive settlement rights to 614,321 ha in the Zona Lacandona. The decree rendered over forty existing settlements illegal and cemented a patron-client relationship between the Lacandones and the government (Trench 2008). Around this time, the national government grew increasingly interested in developing the region's natural timber, hydro, oil, and mineral resources—an interest expressed in a 1974 government report on 'Gran Visión de la Selva Lacandona'. That same year, the Lacandones signed an agreement with the Compañía Forestal Lacandona, S.A. (COFOLASA), giving the state-owned company access to 35,000 cubic meters of timber for the next ten years in exchange for 30% royalties. To complicate matters, the government began to place greater

environmental value on the region, especially for its cultural heritage and potential for ecotourism.

In 1978, President José López Portillo issued a presidential decree (dotación) establishing the 331,200 ha Montes Azules biosphere reserve where the villagers of Amador Hernández already resided. Seven more conservation areas were added in the Lacandon over the coming decades, for a total protected area of 454,860 ha, created with little or no community consultation.

The ensuing decades witnessed a spate of violent conflict and broken promises by the federal and state governments to recognize settler rights. Thousands of Tzeltal and Chole agreed to move into the planned settlements of Frontera Corozal and Nueva Palestina. Others remained steadfast in their claims to the land, while the government forcibly evicted thousands more. Some splintered communities reformed in the Zapatista Army of National Liberation (EZLN), culminating in the Zapatista rebellion in 1994.

Poor government planning and a physically and socially impenetrable forest frontier had caused all previous efforts to map the communities living in the Lacandon forest to fall flat. The disputed territory came to be known as the brecha Lacandona.

The government was never able to mark the brecha Lacandona...When they sent topographers to the zone, everyone united to throw them in jail. Up to now, the only thing they've been able to do is measure the brecha by satellite.¹⁸⁸

¹⁸⁸ <https://zcomm.org/zmagazine/turning-the-lacandon-jungle-over-to-the-carbon-market-by-jeff-conant/>

Clashes over the rightful claim to state and indigenous territory in the 1970s seeded the Zapatista movement. In the early 1990s, the Zapatista Army of National Liberation's (EZLN) formed undetected in the jungle. On 1 January 1994, the day NAFTA launched, 3000 insurgents shocked Mexico by launching an overnight takeover of the state capital San Cristobal de las Casas, three other cities, and a number of towns and villages. Their rallying cry: "No a la brecha Lacandona!" The twelve-day occupation ended in a ceasefire. Years of negotiations and a drawn-out truce followed, marked by intermittent violence and simmering discontent on both sides.

Only by taking this history into account is it possible to understand the complex interplay of various aspects of REDD+ and the reconfiguration of territory, rights, and authority in Chiapas.

Design Choices for Carbon Territory (Land + Terrain)

1) *In-state*: As a technology of performance, the MRV system being planned in Chiapas was at once to make legible the forest carbon stored in the Lacandon and the people living there. Mapping the forest advanced the political-economic ambition to internalize environmental externalities of forests lands into the economy; mapping the people amounted to a political-strategic attempt to bring unruly populations of a contested terrain into the polity. The two together make MRV systems a political technology, implicated in both market-making and state-making. In a study on the World Bank's development and conservation efforts in regions where the state is weak, Michael Goldman refers to this

process as the making of an environmental state where international finance, transnational consultants, and resource-strapped governments come together to:

to “improve” conditions of nature and populations by introducing new cultural/scientific logics for interpreting qualities of the state’s territory (Goldman 2001, also see Goldman 2005).

A lack of government control in the region spurred public worries over threats of civil unrest and unchecked flow of drugs and immigrants from Guatemala. For the state government, a weak federal presence presented the state of Chiapas room for independent maneuver, as indicated by Sabines’ attempt to one-up the National Forestry Commission’s (CONAFOR) conservation program for the region.

Landless indigenous groups equated carbon mapping with social mapping designed to divide the ‘legal’ Lacandon Community from the ‘criminal’ communities living outside state authority. MRV systems are expensive and time-consuming to build. REDD+ proponents justified the cost by arguing that such systems should be designed to collect multiple forms of social and environmental data, thereby fostering conservation and development beyond REDD+ alone. Local groups took this as an affront to their autonomy, emphasizing that mapping the brecha Lacandona would underwrite the state’s monopolization of legitimate violence, which a history of military and paramilitary abuses had proven it was willing to use.

2) *Out-of-state*: The design of Chiapas' REDD+ program involved choices not merely over the proper administration of state territory but the very delineation of what lay within state jurisdiction itself. For the Zapatistas and the communities who supported them, the very right to self-determination outside of any incarnation of state power—including their own—was at stake. In what has been described as the “first post-modern rebellion”, the EZLN leveraged global media to shame the government and gain limited autonomy, so as to invent and imagine another way of life. In the twenty years since, the struggle has not dissolved, but it has dissipated somewhat. Increasingly, the government has cast the insurrection as not a military threat but an environmental one requiring state intervention to counter forests lost to settlers who had no rightful claim to the land. Indigenous groups that had gained some measure of autonomy believed REDD+ would rob them of their rightful jurisdiction to the land.

State and federal officials agreed that early action funding could free natural capital locked in Chiapas' forests to flow in the form of carbon credits to California and others buyers around the world. In return, an influx of hard currency from abroad would protect the forest, develop the economy, benefit forest people, and reduce mitigation costs in buyer countries.

CONAFOR's REDD+ plans drew on a history of negotiations with agrarian groups over federal PES programs, leading to an emphasis on the distribution of federal funds to small landholders based on a portfolio of ecosystem services in addition to carbon sequestration. The international carbon trade was an option but not a priority. The PACT, by contrast, was based narrowly on carbon payments alone. This encouraged a project-based approach centered on carbon rather than sustainable rural development or

other ecosystem services like the provision of freshwater. The state of Chiapas could not hope to match the budget of the central government. But if it could establish authority over carbon rights and the allocation of international funds from the carbon trade in Chiapas, it might leverage projects like the PACT to strengthen patronage ties with potentially unruly clients like the Lacandon Community.

3) *Authorization and Expertise:* Territorial authority was at the center of the struggle. The state government, central government, and recalcitrant local communities in the Lacandon each wanted it, and REDD+ could advance or stand in the way of each of their goals. For the public authorities, MRV systems and related technologies of performance were a means to this end since performance-based REDD+ payments rested with internationally credible measurements of deforestation, which did not exist. Both federal and state governments engaged domestic and transnational private expertise, notably Conservation International and The Nature Conservancy, to foster REDD+ readiness in Chiapas, with MRV systems, reference levels, and related technologies of performance at its core.

The Chiapas government, in particular, empowered in-state, national, and transnational private expertise, in cooperation with SEMAHN, to steer the readiness efforts. Although the state retained formal decision-making power over MRV design, its preoccupation with the PACT (as opposed to the micromanagement of the statewide REDD+ program) speaks to the de facto agenda setting power of private experts who, through orchestrated relationships with public collaborators, may steer technical designs down certain paths, in line with private rather than public interests. In this case, early action projects based on PES to local communities deemed responsible for the major

share of deforestation took precedence over longer jurisdictional possibilities like agrarian reform or sustainable rural development. This is a key argument of Chapter 5.

The above section complicates this account, indicating the state government's own possible preference for a project-centric approach. Teasing apart the relative weight of the government and private advisors in market design is difficult, but it may also be unnecessary. Rather, the case shows a feature common to orchestrated governing arrangements: public authorities ceding expertise to private groups whose goals are compatible with their own. In uncontested situations this may be a strength but shown here it is a weakness. Ad hoc arrangements between the government and private advisors on REDD+ design effectively closed out dissonant views from civil society because, being ad hoc, no procedural channels for civil engagement existed. They had to be invented in new consultative arrangements like the CTC.

Dissident groups expressed frustration for being shut out of even that process, though, in theory, nascent institutions like the CTC may have opened a path to deliberation for a long-term future of REDD+ in Chiapas that set the grounds for agrarian reform. The fallout over Governor Sabines' PACT, however, set a major roadblock on this path by exacerbating territorial divisions between local communities and the state, and local communities themselves. Governor Velasco's cancelation of the project and affirmation of Mexico's National REDD+ strategy leaves set the state on separate course that continues to play out.

V.1.2. SB 605: Legislating Justice through Property in California

This case recounts a legislative effort by environmental justice groups to redefine the ontological status of a carbon offset. Their goal was to promote distributive justice in California and forestall the sale of specious offsets they believed would make a farce of the state's ambitions to become a global green leader.

SB 605 on 'Short Lived Climate Pollutants' passed the California Senate in May 2013 before stalling in the Assembly Natural Committee Resources Committee. An earlier version of the bill sought to exclude only international offsets, suggesting that REDD+ (as the only international sector under regulatory consideration) catalyzed the legislation. A modified version of the bill stripped of the offset provision passed the full Legislature in September 2014.

Design Choices for Carbon Territory (Land + Terrain)

1) *In-state*: Proponents of the bill argued that it would benefit California's economy by retaining offset projects within the state and creating jobs. They also argued that it would fix ARB's flawed offset provisions, which would put low-income communities health at risk by placing compliance costs and global benefits ahead of the rightful benefits of low-income California residents stipulated as one of nine regulatory guidelines called for the AB32.

Opponents countered that restricting offsets to California would harm businesses and consumers by causing the supply of offsets to plummet by 85 percent through 2020, potentially increasing the cost of carbon allowances from \$20-30 to \$148 per ton. They

further asserted that local air pollution was a co-benefit and not a primary goal of AB32, and that air quality issues were to be properly addressed the adequate existing regulation.

2) *Out-of-state*: Proponents argued that California regulators could not properly enforce or monitor the performance of offsets outside its jurisdiction. They were particularly worried about risky international offsets, REDD+ offsets in particular.

The issue prompted transnational NGOs like Greenpeace, Friends of the Earth, and the Indigenous Environmental Network to make common cause with affiliates in Chiapas. Global Justice Ecology Project sent a reporting team to Amador Hernández in the Lacandon, for example, and organized a delegation of indigenous people from Chiapas and Acre to hold protests in California. The transnational network-building, while ephemeral and inchoate, is interesting because it extends to sub-national governments, a growing trend by groups contending state legitimacy to bypass states by claiming rights in the international space.

3) *Authorization and Expertise*: The legislation was one part of a multi-pronged strategy to restrict the use of offsets in California. Other prongs included efforts to change public opinion, as well as through ARB's public comment period and the lawsuits discussed in Chapter 5. Each in a different way sought to challenge the credibility of offsets.

SB 605 can be seen as an effort to legislate ontology of a carbon offset by defying regulators' assertion that carbon emissions from one place on the planet are fungible with emissions from anywhere else because climate change is a global problem. Rather than defining carbon ontology in terms of the seller's territory, it sought to define it according to the buyer's.

The strategy did not overcome cost-concerns and legislative and judiciary deference to ARB's expertise. While the process strengthened ARB's credibility vis-à-vis the government and business, it caused significant mistrust among environmental justice groups, which said they supported AB32 on good faith that the concerns of low-income communities would be a central part of the regulations. The loss of faith will take time to repair. Measures include the redistribution of funds from the auction of carbon allowances to benefit low-income communities, which independent groups have interestingly attempted to make visible to California residents by producing maps of such projects across the state.

V.2. Emergent Transnational Capabilities

V.2.1. The Grievance Mechanism: An Administrative Proposal for Procedural Justice

This case presents options for a grievance mechanism that appear in the ROW recommendations. I conceive of a grievance mechanism as a technology of agency, designed to facilitate procedural justice across political jurisdictions. The broader implications of such a mechanism, however, extend through a complex web that distributes risk, responsibility, liability, ownership, and political representation across borders and groups.

A grievance, or complaint, mechanism refers to:

a formalized right to a procedure for complaint, conflict resolution and remedy that can help to ensure rights and protect ecosystems potentially impacted by REDD+ [that serves to] remedy harms related to violation of indigenous rights

which can help resolve conflicts in a manner that both protects rights and maintain forests (Rainforest Foundation Norway and the Center for Environmental Law et al. 2011).

In ROW's final recommendations published in July 2013, the word "grievance" appears on 23 of the report's 68 pages—a major increase over the nine references in the draft recommendations release five months earlier. While the latter does not mention the term in the executive summary, the final summary recommendations for the development and recognition of safeguards, highlights "the availability of a grievance mechanism" as one of the "necessary pre-conditions for the ultimate success of REDD+ programs."

If fully implemented, the changes could have significant implications on carbon property and civil and political rights in both California and potential partner jurisdictions like Chiapas.

Design Choices for Carbon Territory (Land + Terrain)

1) *In-state*: The emphasis on a grievance mechanism in the final report, including in one of eight items in the "Partner Jurisdiction Checklist, is an outcome of the public comment period and vocal grassroots dissent. Instituting such a mechanism would have direct implications for project operators, local communities, and governments in seller jurisdictions. The recommendations put forward three alternatives for addressing grievances (Table 5).

Table 5. How Should Grievances Be Addressed? (ROW 2013)

No Mechanism	<i>Pros:</i> Easy
	<i>Cons:</i> Unacceptable to civil society, contrary to UNFCCC decisions and international law.
California Designs and Pursues	<i>Pros:</i> Quality control; speaks to values of Californians; provides access to a high-quality review.
	<i>Cons:</i> Not currently supported in statute. Hard to manage and oversee.
Partner Jurisdictions design a grievance mechanism and pursue cases as needed	<i>Pros:</i> More consistent with international practice; reduces distance between complaint and redress; can be adjudicated through national legal systems, where necessary.
	<i>Cons:</i> National/subnational grievance mechanisms can be poorly supported and unpopular with public officials.

Although the ROW does not endorse any one option, it does imply that the best option is for partner jurisdictions take responsibility for the design of a grievance mechanism. This is consistent with the broader text, which stresses the need for California and partners to “make clear that any liability associated with the operation of jurisdictional REDD+ programs is a matter for the domestic legal system in the REDD+ partner jurisdiction.”

Liability for false offsets and the violation of human rights are both central to a transnational REDD+ architecture. All manner of risk might be made calculable by being embedded in that architecture (or alternatively rendered illegible by being excluded). This might include financial risk to investments, buyer liability risk to regulated entities, cost-compliance risks to regulators, or participation risks to local communities.

I can only gesture at the institutional innovation needed to isolate carbon as property so that it may freely circulate across political borders, while constructing civil and political rights in a way that minimizes the movement of claims across jurisdictions. The above options, for instance, are asymmetrical, highlighting the “values of Californians” if California were to design a mechanism but not the values of the people of Chiapas or other partner jurisdiction. This reinforces the body of the text, which further stress that partner jurisdictions “should also make clear that any such grievances or disputes are matters of domestic law...and thus do not in any way implicate the various market- and non-market opportunities that the REDD+ program seeks to access.

2) *Out-of-state*: California law holds itself liable differently for potential false emissions and human rights violations. The legislation makes it possible the state could be held liable for allowing offsets into the cap-and-trade program that were shown to be invalid due to false emission reductions, including those from international offsets. No

equivalent measure exists for civil and political rights violations and, though the potential for such liabilities is a concern, the recommendations note “it is very difficult to imagine any viable cause of action brought by an individual from a partner jurisdiction such as Acre (or Quebec for that matter) against California”. In principle, serious transgressions of either might be grounds to trigger a suspension provision built into the linkage agreement between California and its partner, although there are concerns that the bureaucratic and private pressures to take such an action would be great.

3) *Authorization and Expertise*: Specific procedures in grievance mechanisms include: fact-finding through field visits, providing advice on use of the mechanism, ensuring dispute resolution, assessing compliance with court rulings, and awarding compensation for damages or misconduct (Rainforest Foundation Norway and the Center for Environmental Law et al. 2011).

Social and environmental safeguards would be a critical component of transnational grievance procedures. The ROW recommendations underline the importance of building capable stakeholders, noting that “safeguards have moved in recent years from the periphery to the center of the debate on REDD”. A safeguard system would be one precondition to authorize REDD+ payments under the UNFCCC, California, or other possible compliance market, and a potential mechanism to articulate rights-claims to international laws and norms, such as the UN Declaration on the Rights of Indigenous People (UNDRIP) or the UN-REDD Programme Guidelines on Free, Prior and Informed Consent (FPIC).

In addition to affording protections to local people, the ROW ties them to benefits for governments (“high-quality safeguards is one of the most cost-effective investments

government can make in ensuring permanence and additionality of reductions and removals”) and sustainable development (“social and environmental benefits and provide a viable pathway to sustainable, equitable low-carbon rural development”).

Very likely, transnational private expertise would play a prominent role in design of safeguards and a grievance mechanism in partner jurisdictions. It is also possible that a third-party organization (perhaps the same organization or set of organizations participating in a third-party registry or verification and validation requirements) could play an administrative role by, for example, acting as a ‘semi-permeable membrane’ to filter ineligible offsets. Under certain conditions, an intermediary body between political jurisdictions could also bypass sovereignty concerns, such as the Supremacy Clause in the U.S. Constitution, which could be interpreted to prohibit states from monitoring or commenting on implementation activities in another jurisdiction. Attorneys advising California believe that unconstitutional oversight is not a likely outcome, although the liability measures and other measures taken by the state indicate it is one regulators are keen to avoid.

Liability protections might also be built into technical standards. The ROW, for instance, suggests that a linkage agreement should be conditioned on the partner jurisdiction’s demonstration of “own effort”. The immediate reason for this is to mitigate the possibility of false reductions by setting aside a certain percentage of the overall measured reductions as coming from the “own effort” of a jurisdiction, thereby raising the bar for the additionality requirement under California law. A secondary effect, however, might be to distance California from being associated with grievances in a host jurisdiction because they could be attributed to the efforts of the host jurisdiction itself.

V.2.2. 'The Knowledge and Skills Needed to Engage REDD+': A Guide to the Ideal Stakeholder

Here I draw out assumptions embedded in capacity building strategies about who stakeholders are and what skills they must have to act as entitled and responsible participants (i.e. agents) in REDD+. The case centers on the identity of the ideal stakeholder as presented in a manual released by the Alliance for Global REDD+ Capacity (AGRC), with support from USAID. Alliance members include Conservation International, IUCN, CATIE (where Lucio Pedroni developed nested-REDD+ approach discussed in Chapter 2), and Center for People and the Forests.¹⁸⁹

It is important to note that the manual presents a spectrum of options for REDD+ and does not endorse markets or any specific design. In the current case, I read the document against the agreement between California and Chiapas, which is centered on making a REDD+ market.

The title of the 167-page publication is 'The Knowledge and Skills Needed to Engage REDD+: A Competencies Framework'.¹⁹⁰ Its goal is to provide “a hands-on tool

¹⁸⁹ The document is an example of one of many stakeholder engagement programs developed by private groups, often in cooperation with governments, such as: Pedagogy and Adult Training: A Trainer's Manual the WWF Guide to Building REDD+ Strategies[1] or A Guide for Consistent Implementation of REDD+ Safeguards by Client Earth and UKAid. A Training of Trainers Manual for REDD+ for Community-level Facilitators <http://wwf.panda.org/?208684/WWF-Guide-to-Building-a-REDD-Strategy--A-toolkit-for-REDD-practitioners-around-the-globe>.

¹⁹⁰ Barquín, L., M. Chacón, S.N. Panfil, A. Adeleke, E. Florian, and R. Triraganon. 2014. The Knowledge and Skills Needed to Engage in REDD+: A Competencies Framework. Conservation International, Centro Agronómico Tropical de Investigación y Enseñanza, International Union for the Conservation of Nature, Regional Community Forestry Training Center. Arlington, Virginia, USA. available at: http://www.conservation.org/publications/Documents/CI_REDD-Competencies-Framework.pdf

designed to provide an overview of the essential knowledge, skills and resources required to engage REDD+ themes. The document has two objectives:

1) to facilitate the design of capacity building programs by helping users to understand the target audience, and

2) empower stakeholders who, if they “master the information and skills presented in each section “should be well-placed to engage in the development and implementation of major aspects of REDD+”.

One important and under-explored aspect of capacity building strategies is their function as technologies of agency and performance. While technologies of performance allow a smoothly functioning market by forging common agreement on the definition of ‘a carbon credit’, technologies of agency stabilize the identity and behavior of the participants who have a stake in the market. Thus, making-markets entail ‘making-stakeholders’ as well.

A second, little understood point is that since carbon markets can take many forms (i.e. market rationalities are polyvalent), the ideal subjects who go with them are multiple too. Safeguards to protect civil and political rights, for instance, are scale-dependent, just like MRV systems to calculate carbon property. Local, national, and international carbon accounting are each distinct, and therefore so too are the identity of the rights-claimer entitled to voice grievances or the articulation of grievance mechanisms with legal protections that are already in place.

Design Choices for Carbon Territory (Land + Terrain)

1) *In-state*: The document is noteworthy not because of its content or endorsement of a particular version of carbon territory but because it is a universal framework applicable to almost any imaginable agenda—so long as one is not against REDD+ altogether. It is a seed then to grow REDD+ in any ground. The manual suggests, “If you are looking to expand the scale of your capacity program quickly, consider the use of a ‘training of trainers’ structure...so that the number of trainers grows exponentially.” From the perspective of governmentality, this is an interesting suggestion because its aim is self-replicating agents to spread technologies of performance and agency high, low, far, and wide—to put a spin on it: making stakeholder-making, market-making, state-making stakeholders, or building capacity builders to build capacity-building capacity builders.

The manual aims to help users identify groups in any jurisdiction of any kind—government, private sector, or civil society. The competencies framework is politically sensitive: it is careful to “not provide guidance on determining which stakeholders should participate in capacity building activities.” It is universal, open to virtually any population (gender, age, level of education, ethnicity, preferred modes of engagement, and reasons for engaging on REDD+). It is multifaceted, directed to build capacity for almost any class of stakeholders (technical expert, decision maker, local community member, civil society, or investor). It is also versatile, suited for initiatives that are short-term or long-term, in-person or remote, and via books, radio, TV, or the internet. Finally, it is comprehensive, providing “Essential Knowledge and Skills” for ten themes of interest to REDD+ stakeholders, including the Science and Climate Change and Role of Forests,

The Scale of REDD+, REDD+ Social and Environmental Stakeholders, and REDD+ Funding and Finance.

The manual is but one of the more recent and refined guides targeted at REDD+ stakeholders. In 2010, for instance, Conservation International published ‘Climate Change & The Role of Forests: A Community Manual’. ‘A Community Manual’ has been translated into seven languages and been used by the government of Chiapas in its REDD+ consultation process.¹⁹¹ The document states that its goal is “to help communities to understand climate change and how REDD+ can help to mitigate climate change.”

The manual is an instructive case of a long and growing corpus on capacity building for REDD+. I hypothesize that the strategies are evolutionary, in the sense that they build not only on lessons learnt from earlier initiatives like ‘A Community Manual’ or ongoing development of REDD+ but, more importantly, by becoming more politically sensitive, more versatile, more comprehensive, more applicable—in a way *more fit*. One way capacity building strategies have done that is by extending their vertical and horizontal reach across global networks. Another is, at least in theory, by pursuing a strategy to circumvent, defuse, or take advantage of the cosmopolitical dynamics Beck describes as they unsettle older political orders.

2) *Out-of-state*: The manual works in the mode of networked governance, noting that since REDD+ is complex the identity and configuration of stakeholders may be too. This is not a model of national representation where political citizenship is a one-to-one correspondence with the sovereign territory people live. In this networked mode people

¹⁹¹ ‘A Community Manual’ has been used in a number of other countries, including Madagascar and two GCF members, Indonesia and Peru.

shed identities and institutions to fit the needs at hand, so that “stakeholders may play one or more roles during its [REDD+’s] construction and implementation.” And certainly unlike the citizens of a nation-state, they are—like proposals for REDD+—nested, moving between project, sub-national, national, and international scales. This helps the stakeholder *and* the “vertical harmonization of information channels” to “mainstream the messages across scales”.

It is a quintessential technique of globalization—on the one hand, a technology of agency, with the objective to empower stakeholders with:

Knowledge: understanding new information

Skills: having the ability to do something new or in an improved way

Attitudes: change in the ways of thinking or feeling

On the other, it is a technology of performance to guide, offering trainers guidance on how to be “**S.M.A.R.T.**”:

Specific: precisely describe what learners should achieve

Measurable: permit assessment of whether an objective is reached

Achievable: can be accomplished in the time allowed

Result oriented: should lead to a concrete result

Time bound: can be achieved in a predetermined amount of time

3) *Authorization and Expertise*: The tenor of the document is in accord with that of developers, conservation groups, and government workers I spoke with in Chiapas and California. SEMAHN and organizations like Conservation International, The Nature Conservancy, and Environmental Defense Fund tended to see the primary engagement challenge in terms of an information deficit. (A major goal of the Chiapas CTC, for example, was to educate forest communities about REDD+). Similarly, the guidelines prioritize “knowledge and skills” in order to transform unknowing and ill-equipped target populations into knowledgeable and competent stakeholders. So equipped, stakeholders are to responsibly conduct themselves (to self-authorize) within an overarching REDD+ architecture.

This raises several issues critical to democratic deficits in global governance. First, knowledge and skills to pursue one’s interests in REDD+ do not by themselves extend to decisions about REDD+ design, the decision to pursue REDD+ at all, or the ability to make alternative ideas heard. Empowering stakeholders for knowledge production or upstream decision-making would require a separate, and potentially incompatible, set of capabilities. Second, the information deficit model defines risk in the first instance as ignorance and a lack of skills, rather than inequality, corruption, environmental degradation or some other source. It assumes that whatever threats a community might face, they can be redressed with sufficient knowledge and skill at the level of the community itself. Moreover, it offers a rather hopeful model that politics can be circumvented through deliberation—or perhaps a rather bleak view that political obstacles are insurmountable. Third, making stakeholders responsible implies making some other entity less responsible. The state’s ultimate responsibility is to its people—

shifting responsibility from national institutions of public representation to global networks of empowered stakeholders is no minor thing.

VI. Conclusion: Building Bridges or Abridging Rights?

On the eve of the financial crisis and subsequent collapse of the carbon market, Donald MacKenzie (2007) wrote an essay called ‘The Political Economy of Carbon Trading’.¹⁹² California’s cap-and-trade scheme was on the horizon, and MacKenzie saw that one day carbon credits might flow between London or Edinburgh and Los Angeles or San Francisco. He did not deny the political challenges of making a carbon market nor overlook the importance for other measures:

Finding such a mechanism has been hard enough even in a partially unified polity such as Europe; it will be much harder globally.

Yet, the essay is cautiously optimistic. Even imperfect instruments might be tightened, he argued, to some day civilize capitalism. Such a future would depend on continued political struggle from committed activists, academics, and government officials to define carbon rights in a way that transformed both ‘hot air’ and heated political divisions into a cool, effective, and efficient economy. MacKenzie was hopeful because:

emissions markets gain their political force from their capacity to create alliances between ‘left-wing’ environmentalism and ‘right-wing’ pro-market sentiment.

¹⁹² <http://www.lrb.co.uk/v29/n07/donald-mackenzie/the-political-economy-of-carbon-trading>

The cases presented in this chapter suggest that building bridges for a green economy is harder than he imagined. MacKenzie acknowledges that “many people, especially on the political left, instinctively dislike the idea of emissions trading”. This he attributes to the ‘hostile worlds’ doctrine, which asserts that “the intrusion of economic considerations corrupts intimacy, and conversely that kinship and other intimate relations need to be stopped from corrupting what should be impersonal economic transactions.” The ‘hostile worlds’ doctrine, though, may be a red herring, he said, because “Just as economic relations and intimacy aren’t necessarily at odds, we shouldn’t assume a priori that market pricing is detrimental to environmental stewardship.”

There is some merit in this view. Even as they broke ranks with the far wings of their parties, elements of the right and left did unite in California to surprise many by pushing forward a relatively smoothly functioning market. Governor Schwarzenegger rode the vision to rise above his Republican challengers in the polls. From there and patchwork markets around the world, MacKenzie saw that, just possibly, “we will before long be able to trade carbon anywhere in the world.”

But MacKenzie’s cautious optimism left much out. Making a carbon market in California is one thing but fully building out global green economy governance is quite another. A merely meddlesome ‘hostile worlds’ doctrine proved fatal for Sabines’ PACT in Chiapas, where many communities lacked even a modicum of trust in governments or the private sector. In California, environmental justice groups lost much trust they had built with regulators over the years.

The main reason is that the political economy of carbon trading encompasses much more than struggles over the allocation of property rights: it is equally a contest to

define property, civil and political rights, and the obligations between the state and its citizens. These are constitutional questions. They also escaped the plans of policy-makers and their advisers to make good on the MOU signed by the Governors.

In an op-ed to the L.A. Times, titled ‘California’s Cap-and-Trade Program—More Than Just a Solution for California’, two prominent advocates for the state’s carbon market wrote: “Climate change is a global problem that ultimately demands global solutions. A ‘California only’ approach simply won't cut it.” The piece, written by President of the Climate Action Reserve (CAR), Gary Gero, and CAR Chair and former Secretary of California’s Environmental Protection Agency, Linda Adams, extolled offsets in particular as globally “transformative investments,” adding that:

Offsets build bridges to other states and countries, raising awareness, building local knowledge, and demonstrating how they, too, can address climate change and transform their own economies. Ultimately it is only by building these bridges and promoting wider collaboration that California, and the world at large, can prevent climate change.¹⁹³

A very different model of bridge-building emerged from dissident groups in Chiapas. In April 2011, some 300 delegates from regional campesino and indigenous organizations met in the Zapatista village of Patihuitz for the forum on ‘Indigenous and Campesino Perspectives on the Climate Crisis and the False Solutions’. The California- and Vermont-based Global Justice Ecology Project reports that it “was invited to send a

¹⁹³ Gary Gero and Linda Adams. ‘California's Cap-and-Trade Program -- More Than Just a Solution for California.’ L.A. Times. 18 Nov 2013. Available at: http://www.huffingtonpost.com/gary-gero/post_6160_b_4285205.html

message to the gathering on behalf of ourselves and our allies, as an effort to build bridges across struggles and across borders.”¹⁹⁴

The Declaration of Patihuitz that followed called for configuring territory, authority, rights into something that little resembled the transnational carbon market envisioned by the Governors of California and Chiapas:

We reject the rights recently approved by the Congress [to amend the Mexican Constitution to allow the sale of ejido lands], which puts our lands and our indigenous and campesino territories at risk. No to the sale of land in our communities! We defend our right to live...

...Our lands and territories are at risk. The conservation programs [especially REDD+] that are being implemented today have as their primary goal the transformation of our natural resources into commodities.

Do then carbon markets build bridges or abridge rights? The cases in this chapter have shown that carbon rights is a complex category—that it entails questions about property and civil and human rights; that it takes place through transnational networks linking distant socio-political situations; that it implicates definitions of state, citizenship, and responsibility. In principle, market rationalities are polyvalent—as MacKenzie states there are not ground to assume “a priori that market pricing is detrimental to environmental stewardship.”

¹⁹⁴ <http://globaljusticeecology.org/declaration-of-patihuitz-divided-we-become-allies-of-the-government/>

But there is also much that need not be assumed. The cases in this chapter show how seemingly technical matters about how to design a carbon market carry assumptions about risk, for example, that make certain rights and rights-claimers legible and others not. The justice implications run deep.

EPILOGUE

KNOWLEDGE AND POWER FOR GREEN ECONOMY GOVERNANCE

I. Introduction

Surely one of the most remarkable things about being human is our ability to re-write the rules by which we live. This is why predictions of game-changing, epochal change are quite literally ‘Beyond the Pale’. The saying comes from the 14th century, when to cross a border called the English Pale was to step outside the rules and institutions of English society and enter the Irish wilds.

In his book, *The Enlightened Economy*, historian of capitalism Joel Mokyr calls attention to the power of meta-institutions—those rules for changing rules, which amount to nothing less than a constitution:

A successful economy...needs not only rules that determine how the economic game is played, it needs rules to change the rules if necessary in a way that is as costless as possible. In other words, it needs meta-institutions that change the institutions, and whose changes will be accepted even by those who stand to lose from these changes. Institutions did not change just because it was efficient for them to do so. They changed because key peoples’ ideas and beliefs that supported them changed. (Mokyr 2010)

Colonial Ireland certainly experienced the re-writing of its traditional rules at the most basic level. What though of Mokyr's “peoples’ ideas and beliefs”? If ideas and beliefs shape institutions, how then might institutions shape those ideas and beliefs? In *Science*,

Culture, and Modern State Formation, Patrick Carroll (2006) invites these very questions of rule-making and knowledge-making in early modern Ireland. Carroll finds his answer in an expansive study of British colonial policy, mechanical philosophy, institutional change, and advancements in engineering practices and technologies. In a phrase tellingly reminiscent of the laboratories of carbon market innovation, Carroll finds that colonial Ireland had become a “laboratory for experiments in statecraft”.

Today, hopeful observers like Donald MacKenzie and Michel Callon look with cautious optimism towards carbon markets as a civilizing force. MacKenzie, Callon and fellow STS scholars seeking to understand the ‘performativity of economics’ have done more than any to understand the coming together of rules and knowledge to make carbon markets. These scholars are cautiously optimistic for carbon markets’ civilizing potential, for if rules and knowledge are made, they may be made differently—possibly even to craft economies and polities that are civilized in the highest sense.

Scholars, however, have said little about how contemporary global politics and the global economy amount to a constitution-changing game of this very type. In this dissertation, I have found caution to be well warranted due to the constitutional depth such changes would entail. Those changes are scarcely intelligible. Here I synthesize the concepts developed, cases explored, and avenues for bringing them together to understand how new architectures for global governance are taking shape.

II. Summary of Theory: Stabilizing Knowledge and Institutions for Global Projects

Initiatives like REDD+ extend far beyond the top-down treaty-based system devised to tackle global environmental problems. By framing the case material in terms of a global

project, the dissertation opens up a vast, messy, and poorly understood domain, where nascent networks of sub-national and non-state actors are struggling to fashion new global governing spaces outside the international domain proper. Theirs is a struggle not simply for being technically challenging and politically contentious—but because it is stringing together the fabric of a whole new world.

Understanding global projects like REDD+ presents significant theoretical and methodological challenges, since the outcomes are unpredictable and the concepts at hand derived from an earlier nation-centric order. No clear guide exists to navigate the disparate sites, scales, and actors in play. Such global projects are polycentric—a concept being fruitfully applied to the study of global environmental politics in order to understand how independent sites of decision-making are coming together to enable new modes of global collective action. Scholarship on REDD+ and global environmental governance more generally, however, has done little to understand the entwined processes of polycentric decision-making and knowledge-making.

This dissertation has begun to take up this theoretical challenge by embarking from a central tenet: If global projects are ever to gain hold, they will be both institutional and epistemic achievements. And this will require the drawing together of a welter of actors, techniques, norms, and other heterogeneous elements into configurations that have never before existed. The dissertation has begun to understand this process of global project-making using a core set of concepts: capabilities, organizing logics, and tipping points.

From these high-level concepts, the dissertation has shown how institutions and knowledge come together to make and unmake seemingly eternal constitutional

categories like territory, authority, and rights. To make sense of this process as it unfolds, the cases explored in Chapters 2-6 are wide-ranging and the concepts eclectic. I have, for example, drawn on institutionalist ideas (e.g. orchestration) to tease out the authorization of transnational private expertise, constructivist ones (e.g. risk rationality) to reveal the construction of the rights-claiming subject, and constitutionalist scholarship (e.g. global environmental imagination) to resolve the competing globalisms in accounting for carbon at different scales. In the following section, I draw on these theoretical findings to suggest avenues for the deliberative design of carbon markets and global governing architectures writ large.

III. Questioning Design

The theoretical approach advanced here bears relevance on the goals of the global project makers themselves. The struggle of REDD+ proponents and opponents issues in no small part from the disjuncture between an old vocabulary and new ambitions. How will the accountability claimed for global projects be ensured? How will long-standing norms of national authority be transfigured or preserved? What forms of global knowledge will make local people and ecologies some way commensurate? At heart, these are design questions, which a keener theoretical appreciation of de-centered world-making can help address.

The dissertation offers a window into emergence of this process through the complex interplay of global rules and global knowledge for REDD+. In some ways, the process resembles Bruno Latour's notion of 'centers of calculation', which draw together far-flung actors and actions by circulating simplified representations of the world (Latour

1990, also see Jasanoff 2015). The dissertation, however, shows such a view to reflect the ideals of top-down global environmental governance more than its actual practice. Indeed, I have argued that a de-centered global order is arising from this very inability of the treaty-based system to forge a unified legal-epistemic order, combined with the normative imperative that such an order be established.

This suggests the possibility of re-framing many of the design dilemmas that REDD+ players have wrestled with for years. In 2008, Douglas Boucher of the Union of Concerned Scientists penned a thought piece titled ‘Out of the Woods: A Realistic Role for Tropical Forests in Curbing Global Warming’. The piece poses questions directly pertinent to the institutional, epistemic, and constitutional concerns pursued by this dissertation, including:

- Why do the estimates of costs vary so much between regional empirical studies, the area-based estimates of the Stern Review, and the output of the global models?
- How does this difference among estimates square with the idea, going back to Adam Smith, that wider markets should lower costs, not raise them?
- What are the best estimates we can make of some of the “additional costs” that are not included in the current analysis for lack of quantitative data? For example, how much should we allow for measuring and monitoring, or for capacity building? (Boucher 2008)

Eight years later, Boucher had grown dubious that these questions are even worth asking of REDD+, writing:

Well, the argument has now been going on for eight more years, and I've just published an article in the Journal of Sustainable Forestry saying that it's time to move on. The reasons are simple, but maybe not what you might anticipate. It's not that the debate remains unresolved (although it does), nor that organizations trying to stake out a middle position haven't gotten much traction (although we haven't), nor even that NGOs have found that the best way to get policies adopted to reduce deforestation was by "agreeing to disagree" and not fighting about the question any more (although we certainly have, with substantial success).

It's an issue of ideology, politics, and how one views humanity's relationship to nature. But at least we could recognize that this particular fight doesn't really matter, and move on to a more important one. I'm happy to have arguments, but in general I like for them to be about something that really makes a difference.
(Boucher 2015)

The concerned scientist's frustration comes out of the vexing issues the dissertation explores and seeks to develop a new vocabulary to talk about. Doing so might facilitate new possibilities for knowledge and action around the emergent global project that is REDD+. Boucher, for instance, concludes that those design questions for a REDD+ market are not only not worth asking but may divert attention from the real threat, the:

“major commodities driving tropical deforestation: beef, soy, palm oil and timber.” Previous chapters highlight, however, how REDD+ proponents have come to similar conclusions—both those in the early days favoring national-level compensated reductions and more recent efforts like the GCF-affiliated Earth Innovation Institute’s ambition to “Re-frame REDD+” towards sustainable commodity supply chains as well. Ironically, Greenpeace, a vocal critic of the GCF, calls for zero-deforestation supply chains itself. The case material examined in this dissertation recount many moments in many sites where these questions might have been answered in REDD+ design differently and alternative design paths followed. How might then these moments be configured differently in the future? The cases and concepts explored here offer a start to re-think how such design could and should proceed. These are opportunities for future research.

IV. Conclusion

So many proposals, so many visions for the future: Political jurisdictions or local projects? Carbon markets or a global fund? Incentivizing local people in carbon credits or in kind? On one level, it may seem a stretch to group these irreconcilable proposals under a single global project. Yet, on another level, what comes of any one of them has much to do with what comes of the others. Indeed, they owe their form to this amorphous and hotly contended initiative called REDD+. Just as whatever shape REDD+ takes will emerge out of the prior capabilities and strategies of the many actors behind these proposals, the competing visions themselves may, for instance, draw vigor from REDD+ or be expelled from it.

The theoretical and empirical investigation of this study therefore has much room to run. In part, the dissertation was conducted in hopes of generating new insights about very particular and consequential cases in question. Yet, it also aims to build more general insights beyond the thick description of these particular cases. To turn one of the study's ideas onto itself: the dissertation offers a kind of conceptual 'proto-capability' for understanding the stabilization of global projects. The next step is to advance the findings here into a generalizable framework to grapple with global epistemic, institutional, and constitutional change.

The ongoing evolution of the GCF offers a rich place to extend and refine the current empirical and theoretical inquiry. The MOU between California and Chiapas, and their high-visibility in the global REDD+ debate, makes them key members of the GCF itself. But, as of early 2015, the sub-national partnership calls 27 other states and provinces as members. Topically and conceptually, the broader GCF network offers an obvious stepping-stone from the material developed here. I had hoped to incorporate a number of more cases but for the methodological constraints of thick description was forced to leave them out.

The third party to the MOU, Acre, offers a stark case to Chiapas. In 2012, the state received the first performance-based payments from Germany's REDD+ Early Movers Programme. Over four years the programme agreed to pay Acre around US\$25 million to retire carbon offsets. Here I can only touch on the difference between Chiapas, which failed to secure independent sub-national carbon authority, and Acre, which proved critical to carving out such a space. Acre was not without its own controversies, in

particular, over potential conflicts between indigenous rights and local projects rolled into the program.

But, whereas Chiapas, with the backing of conservation groups, folded itself into Mexico's national REDD+ strategy, Acre established sub-national solidarity with other states in Brazil, including those that also counted themselves as members of the GCF. Individuals working in SEMAHN later reflected that a stronger state strategy from the start would have done more to establish early state-to-state ties between Chiapas and other Mexican states developing their own REDD+ policies, namely Campeche, Yucatan, and Oaxaca.

Brazilian states actually did so, forming a sub-national coalition actively drew a line between their own efforts and national-level REDD+ policy in Brazil. These states elaborated sub-national jurisdictional REDD+ through technical arguments tailored to the Brazilian policy situation called U-REDD, which presented a coherent alternative preferred to the national REDD+ strategy being developed by central authorities in Brazil. The sub-national solidarity and cogent technical arguments have gained the Brazilian states increasing attention internationally. And California, which has had little to say about Chiapas, has grown more confident in Acre, its Brazilian partner, and the sub-national governing innovations underway in Brazil, in 2015 signing onto the Rio Branco Declaration.

All have more than simply the GCF in common. As weighty as these issues are, they manifest yet more fundamental institutional, epistemic, and constitutional shifts at a global scale. In this study, I have waded through these murky and halting efforts as they remain scarcely legible to contemporary observers. Ultimately these issues drive deeper

than the GCF, REDD+, carbon markets, or even global environmental governance: They are worlds struggling to be born.

REFERENCES

- Abbott, Kenneth, and Duncan Snidal. 2009. "Strengthening International Regulation Through Transnational New Governance." *Vanderbilt Journal of Transnational Law* 42: 501–78. Print.
- Abbott, Kenneth. 2014. "Strengthening the Transnational Regime Complex for Climate Change." *Transnational Environmental Law* 3 (01): 57–88. doi:10.1017/S2047102513000502.
- Abbott, Kenneth W, P Genschel, D Snidal, and B Zangl. 2015. *International Organizations as Orchestrators*. Cambridge University Press. Print.
- Ackerman, Bruce A. 1983. *Reconstructing American Law*. Harvard University Press. Print.
- Adler, Emanuel, and Peter Haas. 1992. "Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program." *International Organization* 46 (1): 1–25. Print.
- Agrawal, Arun. 2005. *Environmentality*. Duke University Press. Print.
- Agrawal, Arun, D Nepstad, and A Chhatre. 2011. "Reducing Emissions From Deforestation and Forest Degradation." *Annual Review of Environment and Resources* 36 (1): 373–96. doi:10.1146/annurev-environ-042009-094508.
- Allenby, Braden R, and Daniel Sarewitz. 2011. *The Techno-Human Condition*. The MIT Press. Print.
- Angelsen, Arvid, M Brockhaus, W D Sunderlin, and L V Verchot. 2012. *Analysing REDD+: Challenges and Choices*. CIFOR. Print.
- Appadurai, Arjun. 1986. *The Social Life of Things*. Cambridge University Press. Print.
- Asner, Gregory P. 2011. "Painting the World REDD: Addressing Scientific Barriers to Monitoring Emissions From Tropical Forests." *Environmental Research Letters* 6 (2): 021002. doi:10.1088/1748-9326/6/2/021002.
- Aulisi, Andrew, J Larsen, J Pershing, and P Posner. 2007. "Climate Policy in the State Laboratory." World Resources Institute. Print.
- Aust, Helmut P. 2015. "Shining Cities on the Hill? the Global City, Climate Change, and International Law.." *European Journal of International Law* 26 (1). Oxford University Press: 255–78. Print.

- Baccini, Alessandro, S J Goetz, W S Walker, N T Laporte, M Sun, D Sulla-Menashe, J Hackler, et al. 2012. "Estimated Carbon Dioxide Emissions From Tropical Deforestation Improved by Carbon-Density Maps." *Nature Climate Change* 2 (3). Nature Publishing Group: 182–85. doi:10.1038/nclimate1354.
- Barry, Andrew, and Don Slater. 2002. "Technology, Politics and the Market: an Interview with Michel Callon." *Economy and Society* 31 (2): 285–306. doi:10.1080/03085140220123171.
- Beck, Ulrich. 1992. *Risk Society*. SAGE Publications. Print.
- Beck, Ulrich. 1999. *World Risk Society*. Polity Press. Print.
- Beck, Ulrich, and Natan Sznaider. 2010. "Unpacking Cosmopolitanism for the Social Sciences: a Research Agenda." *The British Journal of Sociology* 61 (January): 381–403. doi:10.1111/j.1468-4446.2009.01250.x.
- Bendell, Jem. 2000. "Civil Regulation: a New Form of Democratic Governance for the Global Economy?." *Terms for Endearment: Business*. Print.
- Betsill, Michele, and Harriet Bulkeley. 2004. "Transnational Networks and Global Environmental Governance: the Cities for Climate Protection Program." *International Studies Quarterly* 48 (2). Wiley Online Library: 471–93. Print.
- Betsill, Michele, and Harriet Bulkeley. 2006. "Cities and the Multilevel Governance of Global Climate Change." *Global Governance* 12 (2): 141–59. Print.
- Betsill, Michele, and Matthew J Hoffmann. 2011. "The Contours of 'Cap and Trade': the Evolution of Emissions Trading Systems for Greenhouse Gases." *Review of Policy Research* 28 (1): 83–106. Print.
- Bina, Olivia. 2013. "The Green Economy and Sustainable Development: an Uneasy Balance?." *Environment and Planning C* 31: 1023–47. Print.
- Bodansky, Daniel M. 1995. "The Emerging Climate Change Regime." *Annual Review of Energy and the Environment* 20: 425–61. Print.
- Boyd, William. 2010. "Ways of Seeing in Environmental Law: How Deforestation Became an Object of Climate Governance." *Ecology Law Quarterly* 37: 1–75. Print.
- Boyd, William. 2011. "Climate Change, Fragmentation, and the Challenges of Global Environmental Law." *Legal Studies Research Paper Series*, January, 1–95. Print.
- Bromley, Daniel W. 1991. *Environment and Economy*. Basil Blackwell. Print.

- Bulkeley, Harriet, and V Castán Broto. 2013. "Government by Experiment? Global Cities and the Governing of Climate Change." *Transactions of the Institute of British Geographers* 38 (3): 361–75. Print.
- Busch, Jonah, B Strassburg, A Cattaneo, R Lubowksi, A Bruner, R Richard, A Creed, R Ashton, and F Boltz. 2009. "Comparing Climate and Cost Impacts of Reference Levels for Reducing Emissions From Deforestation." *Environmental Research Letters* 4 (4). Print.
- Busch, Lawrence. 2011. *Standards: Recipes for Reality*. The MIT Press. Print.
- Callon, Michel. 1986. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay." In *Power, Action and Belief: a New Sociology of Knowledge*, edited by John Law, 196–223. Routledge. Print.
- Callon, Michel. 2009. "Civilizing Markets: Carbon Trading Between in Vitro and in Vivo Experiments." *Accounting, Organizations and Society* 34 (3-4): 535–48. doi:10.1016/j.aos.2008.04.003.
- Callon, Michel, ed. 1998. *Laws of the Markets*. 1st ed. Wiley-Blackwell. Print.
- Caplow, Susan, P Jagger, K Lawlor, and E Sills. 2011. "Evaluating Land Use and Livelihood Impacts of Early Forest Carbon Projects: Lessons for Learning About REDD+." *Environmental Science and Policy* 14 (2): 152–67. doi:10.1016/j.envsci.2010.10.003.
- Carlson, Ann. 2014. "Regulatory Capacity and State Environmental Leadership: California's Climate Policy." *Scholarly Perspectives* Volume X (Fall 2014). Print.
- Cash, David, WN Adger, F Berkes, P Garden, L Lebel, P Olsson, L Pritchard, and O Young. 2006. "Scale and Cross-Scale Dynamics: Governance and Information in a Multilevel World." *Ecology and Society* 11 (2): 8. Print.
- Castree, Noel. 2003. "Commodifying What Nature?." *Progress in Human Geography* 27 (3): 273–97. doi:10.1191/0309132503ph428oa.
- Charmaz, Kathy. 2014. *Constructing Grounded Theory*. SAGE Publications. Print.
- Chayes, Abram, and Antonia Handler Chayes. 1998. *The New Sovereignty*. Harvard University Press. Print.
- Cooper, Melinda. 2008. *Life as Surplus: Biotechnology and Capitalism in the Neoliberal Era*. 1st Edition. University of Washington Press. Print.

- Corbera, Esteve, Carmen González Soberanis, and Katrina Brown. 2009. "Institutional Dimensions of Payments for Ecosystem Services: an Analysis of Mexico's Carbon Forestry Programme." *Ecological Economics* 68 (3). Elsevier B.V.: 743–61. doi:10.1016/j.ecolecon.2008.06.008.
- Cronon, William. 1990. *Nature's Metropolis: Chicago and the Great West*. W. W. Norton & Company. Print.
- Çalışkan, Koray, and Michel Callon. 2009. "Economization, Part 1: Shifting Attention From the Economy Towards Processes of Economization." *Economy and Society* 38 (3): 369–98. doi:10.1080/03085140903020580.
- de Vos, Jan. 2002. *Una Tierra Para Sembrar Sueños: Una Historia Reciente De La Selva Lacandona, 1950–2000*. FCE/CIESAS. Print.
- Dean, Mitchell. 2009. *Governmentality*. SAGE Publications. Print.
- Edwards, Paul N. 2010. *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming*. The MIT Press. Print.
- Elden, Stuart. 2013. *The Birth of Territory*. University of Chicago Press. Print.
- European Commission. 2008. "Scientific Evidence for Policy-Making." EUR 22982. Print.
- Fadnes, Ingrid. 2011. "El Proyecto REDD+ en Chiapas: Derechos De Los Pueblos Indígenas Y Sus Condiciones en El Programa Reducción De Emisiones Por Deforestación Y Degradación De Bosques (REDD+) - El Caso De Chiapas, México ." Web. 6 May 2015. <<http://www.nacionmulticultural.unam.mx/mezinal/docs/2582.pdf>>.
- Fogel, Cathleen. 2005. "Biotic Carbon Sequestration and the Kyoto Protocol: the Construction of Global Knowledge by the Intergovernmental Panel on Climate Change." *International Environmental Agreements: Politics, Law and Economics* 5 (2): 191–210. doi:10.1007/s10784-005-1749-7.
- Gallemore, Caleb, and Darla K Munroe. 2013. "Centralization in the Global Avoided Deforestation Collaboration Network." *Global Environmental Change* 23 (5). Elsevier Ltd: 1199–1210. doi:10.1016/j.gloenvcha.2013.04.004.
- Global Canopy Programme. 2008. *The Little REDD+ Book*. Global Canopy Foundation. Print.
- Goldman, Michael. 2001. "Constructing an Environmental State: Eco-Governmentality and Other Transnational Practices of a 'Green' World Bank." *Social Problems* 48 (4): 499–523. Print.

- Goldman, Michael. 2005. *Imperial Nature*. Yale University Press. Print.
- Granovetter, M. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78 (6): 1360–80. Print.
- Green, Jessica F. 2013. *Rethinking Private Authority*. Princeton University Press. Print.
- Greenpeace International. 2011. "National vs Sub-National Approaches." Greenpeace. Print.
- Grimm, Dieter. 1995. "Does Europe Need a Constitution?." *European Law Journal* 3 (1): 282–302. Print.
- Gullison, Raymond E, P C Frumhoff, J G Canadell, C B Field, D C Nepstad, K Hayhoe, R Avissar, et al. 2007. "ENVIRONMENT: Tropical Forests and Climate Policy." *Science* 316 (5827): 985–86. doi:10.1126/science.1136163.
- Guston, David. 2001. "Boundary Organizations in Environmental Policy and Science: an Introduction." *Science, Technology & Human Values* 16 (4): 1–11. Print.
- Haas, Peter. 1992. "Introduction: Epistemic Communities and International Policy Coordination." *International Organization* 46 (1): 1–35. Print.
- Haas, Peter. 1990. "Obtaining International Environmental Protection Through Epistemic Consensus." *Millennium - Journal of International Studies* 19: 347–63. Print.
- Hajer, Maarten A. 1995. *The Politics of Environmental Discourse*. Oxford University Press. Print.
- Hardt, Michael, and Antonio Negri. 2000. *Empire*. Harvard University Press. Print.
- Harris, Nancy L, Sandra Brown, Stephen C Hagen, Sassan S Saatchi, Silvia Petrova, William Salas, Matthew C Hansen, Peter V Potapov, and Alexander Lotsch. 2012. "Baseline Map of Carbon Emissions From Deforestation in Tropical Regions.." *Science* 336 (6088): 1573–76. doi:10.1126/science.1217962.
- Hayden, Cori. 2003. *When Nature Goes Public: the Making and Unmaking of Bioprospecting in Mexico*. Princeton University Press. Print.
- Hilgartner, Stephen. 2000. *Science on Stage*. Stanford University Press. Print.
- Hughes, Thomas Parke. 1993. *Networks of Power*. Johns Hopkins University Press. Print.
- Igoe, J, and D Brockington. 2007. "Neoliberal Conservation: a Brief Introduction." *Conservation and Society* 5 (4): 432. Print.

- Jasanoff, Sheila. 2003. "In a Constitutional Moment: Science and Social Order at the Millennium." *Social Studies of Science and Technology: Looking Back, Ahead*. Springer, 155–80. Print.
- Jasanoff, Sheila. 2011. *Reframing Rights*. The MIT Press. Print.
- Jasanoff, Sheila. 2015. "Future Imperfect: Science, Technology, and the Imagination of Modernity." In *Sociotechnical Imaginaries and the Fabrication of Power*, edited by Sheila Jasanoff. The University of Chicago Press. Print.
- Jasanoff, Sheila, and M Long-Martello, eds. 2004. *Earthly Politics: Local and Global in Environmental Governance*. The MIT Press. Print.
- Jasanoff, Sheila, ed. 2004. *States of Knowledge: the Co-Production of Science and the Social Order*. 1st ed. Routledge. Print.
- Jessop, Bob. 2012. "Economic and Ecological Crises: Green New Deals and No-Growth Economies." *Development* 55 (1): 17–24. doi:10.1057/dev.2011.104.
- Karsenty, Alain, and Symphorien Ongolo. 2012. "Can 'Fragile States' Decide to Reduce Their Deforestation? the Inappropriate Use of the Theory of Incentives with Respect to the REDD Mechanism." *Forest Policy and Economics* 18 (May): 38–45. doi:10.1016/j.forpol.2011.05.006.
- Keck, Margaret, and K Sikkink. 1998. "Transnational Advocacy Networks in the Movement Society." In *The Social Movement Society: Contentious Politics for a New Century*, edited by D Meyer and S Tarrow. Rowman & Littlefield Publishers. Print.
- Kemp, Rene, and Derk Loorbach. 2006. "Transition Management: a Reflexive Governance Approach." In *Reflexive Governance for Sustainable Development*, edited by J Voss Voss, D Bauknecht, and R Kemp, 1–32. Print.
- Keohane, Robert. 2001. "Governance in a Partially Globalized World." *American Political Science Review* 95 (1): 1–13. Print.
- Keohane, Robert. 2002. *Power and Governance in a Partially Globalized World*. Routledge. Print.
- Kindermann, Georg, M Obsersteiner, J Bascompte, B Sohngen, J Sathaye, K Andrasko, E Rametsteiner, B Schlamadinger, S Wunder, and R Beach. 2008. "Global Cost Estimates of Reducing Carbon Emissions Through Avoided Deforestation." *Proceedings of the National Academy of Sciences* 105 (30). Print.
- Kindermann, Georg, M Obersteiner, E Rametsteiner, and I Mccallum. 2006. "Predicting the Deforestation Trend Under Different Carbon Prices." *Carbon Balance and Management* 1 (1): 15. doi:10.1186/1750-0680-1-15.

- Klinsky, Sonja. 2012. "Bottom-Up Policy Lessons Emerging From the Western Climate Initiative's Development Challenges." *Climate Policy* 13 (2): 143–69. Print.
- Kremen, Claire, J O Niles, M G Dalton, G C Daily, and P R Ehrlich. 2002. "Economic Incentives for Rain Forest Conservation Across Scales." *Science* 288 (June): 1821–31. Print.
- Leach, Melissa, I Scoones, and A Stirling. 2010. *Dynamic Sustainabilities*. Earthscan. Print.
- Lipschutz, Ronnie D, and Judith Mayer. 1996. *Global Civil Society and Global Environmental Governance*. SUNY Press. Print.
- Loft, Lasse, A Ravikumar, M Gebara, T Pham, I Resosudarmo, S Assembe, J Tovar, E Mwangi, and K Andersson. 2015. "Taking Stock of Carbon Rights in REDD+ Candidate Countries: Concept Meets Reality." *Forests* 6 (4): 1031–60. doi:10.3390/f6041031.
- Lohmann, Larry. 2005. "Marketing and Making Carbon Dumps: Commodification, Calculation and Counterfactuals in Climate Change Mitigation." *Science as Culture* 14 (3): 203–35. Print.
- Lohmann, Larry. 2011. "The Endless Algebra of Climate Markets." *Capitalism Nature Socialism* 22 (4): 93–116. doi:10.1080/10455752.2011.617507.
- Lovell, Heather, and Donald Mackenzie. 2011. "Accounting for Carbon: the Role of Accounting Professional Organisations in Governing Climate Change." *Antipode* 43 (3): 704–30. doi:10.1111/j.1467-8330.2011.00883.x.
- Lovelock, James. 2007. *The Revenge of Gaia: Earth's Climate Crisis & the Fate of Humanity*. Penguin Books. Print.
- MacDonald, Kenneth. 2005. "Global Hunting Grounds." *Cultural Geographies* 12 (December): 34. Print.
- MacDonald, Kenneth. 2010. "The Devil Is in the (Bio) Diversity: Private Sector 'Engagement' and the Restructuring of Biodiversity Conservation." *Antipode* 42 (3): 513–50. Print.
- Mackenzie, Donald. 2008. *An Engine, Not a Camera: How Financial Models Shape Markets*. The MIT Press. Print.
- Mackenzie, Donald. 2009. "Making Things the Same: Gases, Emission Rights and the Politics of Carbon Markets." *Accounting, Organizations and Society* 34 (3): 440–55. doi:10.1016/j.aos.2008.02.004.

- Marcus, George. 1995. "Ethnography in:of the World." *Annual Review of Anthropology* 24: 95–117. Print.
- Maréchal, Kevin, and Walter Hecq. 2006. "Temporary Credits: a Solution to the Potential Non-Permanence of Carbon Sequestration in Forests?." *Ecological Economics* 58 (4): 699–716. Print.
- Mayntz, Renate, and Thomas P Hughes. 1988. *The Development of Large Technical Systems Edited by Renate Mayntz, Thomas P. Hughes*. Westview Press. Print.
- Meridian Institute. 2009. "Fostering Carbon Markets: Investment in REDD." Final Report. Meridian Institute. Print.
- Miller, Clark. 2001. "Hybrid Management: Boundary Organizations, Science Policy, and Environmental Governance in the Climate Regime." *Science, Technology & Human Values* 26 (4): 24. Print.
- Miller, Clark. 2004a. "Interrogating the Civic Epistemology of American Democracy: Stability and Instability in the 2000 US Presidential Election." *Social Studies of Science* 34 (4): 501–30. doi:10.1177/0306312704045661.
- Miller, Clark. 2004b. "Climate Science and the Making of a Global Political Order." In *States of Knowledge: the Co-Production of Science and the Social Order*, edited by Sheila Jasanoff, 1st ed., 46–66. Routledge. Print.
- Miller, Clark. 2007. "Democratization, International Knowledge Institutions, and Global Governance." *Governance* 20 (2). Wiley Online Library: 325–57. Print.
- Miller, Clark. 2008. "Civic Epistemologies: Constituting Knowledge and Order in Political Communities." *Sociology Compass* 2 (6). I: 1896–1919. Print.
- Miller, Clark. 2015. "Globalizing Security: Science and the Transformation of Contemporary Political Imagination." In *Sociotechnical Imaginaries and the Fabrication of Power*, edited by Sheila Jasanoff. The University of Chicago Press. Print.
- Miller, Clark, and Paul Edwards, eds. 2001. *Changing the Atmosphere: Expert Knowledge and Environmental Governance*. 1st ed. The MIT Press. Print.
- Miller, Daniel. 2005. "Reply to Michel Callon." *Economic Sociology: Electronic Newsletter* 6 (3): 3–13. Print.
- Mirowski, Philip, and Edward Nik-Khah. 2007. "Markets Made Flesh." In *Do Economists Make Markets?*, edited by Donald Mackenzie, Fabian Muniesa, and Lucia Siu. Princeton University Press. Print.

- Moura Costa, Pedro, M Stuart, M Pinard, and G Phillips. 2000. "Elements of a Certification System for Forestry-Based Carbon Offset Projects." *Mitigation and Adaptation Strategies for Global Change* 5 (1): 39–50. doi:10.1023/A:1009656501414.
- Nye, Joseph S. 2005. *Soft Power*. Public Affairs. Print.
- O'Brien, Karen. 1998. *Sacrificing the Forest*. Westview Press. Print.
- Oels, Angela. 2005. "Rendering Climate Change Governable: From Biopower to Advanced Liberal Government?." *Journal of Environmental Policy & Planning* 7 (3): 185–207. Print.
- Osborne, Tracey M. 2011. "Carbon Forestry and Agrarian Change: Access and Land Control in a Mexican Rainforest." *Journal of Peasant Studies* 38 (4): 859–83. doi:10.1080/03066150.2011.611281.
- Osborne, Tracey M. 2013. "Fixing Carbon, Losing Ground: Payments for Environmental Services and Land (in)Security in Mexico." *Human Geography* 6 (1): 119–33. Print.
- Peskett, Leo, and Gernot Brodnig. 2015. "Carbon Rights in REDD+." World Bank. Print.
- Philip Morris Institute for Public Policy Research. 1995. *Does Europe Need a Constitution?* The Philip Morris Institute for Public Policy Research ASBL. Print.
- Power, Michael. 1999. *The Audit Society: Rituals of Verification*. OUP Oxford. Print.
- Prins, Gwyn. 2008. "Radical Rethink Is Needed on Climate-Change Policy." *Nature*. Print.
- Rabe, Barry. 2008. "States on Steroids: the Intergovernmental Odyssey of American Climate Policy." *Review of Policy Research* 25 (2): 105–28. Print.
- Rabe, Barry G, and G W Bush. 2007. "Beyond Kyoto: Designing Policies to Reduce Greenhouse Gases in Competing Federal Systems." *Governance: an International Journal of Policy* 20 (3): 423–44. Print.
- Rajan, Kaushik Sunder. 2006. *Biocapital: the Constitution of Postgenomic Life*. Duke University Press Books. Print.
- Risse, Thomas, and Kathryn Sikkink. 2013. *The Persistent Power of Human Rights*. Cambridge University Press. Print.
- Rittel, Horst, and Melvin Webber. 1973. "Dilemmas in a General Theory of Planning. Policy Sciences." *Policy Sciences* 4: 155–69. Print.

- Robertson, Morgan. 2006. "Emerging Ecosystem Service Markets: Trends in a Decade of Entrepreneurial Wetland Banking." *Frontiers in Ecology and the Environment* 4 (6): 7. Print.
- Rose, Nikolas. 1993. "Government, Authority and Expertise in Advanced Liberalism." *Economy and Society* 22 (3). Print.
- Rose, Nikolas. 2006. *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century*. Princeton University Press. Print.
- Santilli, Márcio, P Moutinho, S Schwartzman, D Nepstad, L Curran, and C Nobre. 2005. "Tropical Deforestation and the Kyoto Protocol." *Climatic Change* 71 (3): 267–76. doi:10.1007/s10584-005-8074-6.
- Sari, Agus. 2005. "Developing Country Participation: the Kyoto-Marrakech Politics." HWWA Discussion Paper 333. Hamburg Institute of International Economics. Print.
- Sassen, Saskia. 2007. *Deciphering the Global: Its Scales, Spaces and Subjects*. Routledge. Print.
- Sassen, Saskia. 2008. *Territory, Authority, Rights*. Princeton University Press. Print.
- Scoones, Ian, Melissa Leach, and Peter Newell. 2015. *The Politics of Green Transformations*. Routledge. Print.
- Shapin, Steven. 1995. "Cordelia's Love: Credibility and the Social Studies of Science." *Perspectives on Science* 3 (3): 11. Print.
- Steinberg, Theodore. 1994. *Nature Incorporated*. Cambridge University Press. Print.
- Stern, Nicholas. 2006. *The Economics of Climate Change*. Cambridge University Press. Print.
- Stewart, R B, and B Jonathan. 1992. "The Comprehensive Approach to Global Climate Policy: Issues of Design and Practicality" 9 (1). *Arizona Journal of International and Comparative Law*: 83–113. Print.
- Streck, Charlotte, and Sebastian Scholz. 2006. "The Role of Forests in Global Climate Change: Whence We Come and Where We Go." *International Affairs* 82 (5): 19. Print.
- Swyngedouw, Erik. 2005. "Governance Innovation and the Citizen: the Janus Face of Governance-Beyond-the-State." *Urban Studies* 42 (11): 1–17. Print.
- Taylor, Charles. 2003. *Modern Social Imaginaries*. Duke University Press. Print.

- Thompson, Mary C, M Baruah, and E Carr. 2011. "Seeing REDD+ as a Project of Environmental Governance." *Environmental Science and Policy* 14 (2): 100–110. doi:10.1016/j.envsci.2010.11.006.
- TNC, and Baker & McKenzie. 2010. "A Nested Approach to REDD+: Structuring Effective and Transparent Incentive Mechanisms for REDD+ Implementation at Multiple Scales." The Nature Conservancy. Web. 5 November 2013. <http://change.nature.org/wp-content/uploads/A-Nested-Approach-to-REDD+.pdf>.
- Trench, Tim. 2008. "From 'Orphans of the State' to the Comunidad Conservacionista Institucional: the Case of the Lacandón Community, Chiapas." *Identities* 15 (5): 607–34. doi:10.1080/10702890802333827.
- Triantafyllou, Peter. 2004. "Conceiving 'Network Governance': the Potential of the Concepts of Governmentality and Normalization." Working Paper. Centre for Democratic Network Governance. Print.
- Tribe, Laurence H. 2000. *American Constitutional Law*. Foundation Press. Print.
- UNEP. 2013. "Integrating REDD+ Into a Green Economy Transition." UN Environment Programme. Print.
- Vogel, David. 2008. "Private Global Business Regulation." *Annual Review of Political Science* 11: 261–82. Print.
- Walker, Neil. 1996. "European Constitutionalism and European Integration." *Public Law*, no. Summer: 266–90. Print.
- Walsh, Virginia. 2004. *Global Institutions and Social Knowledge: Generating Research at the Scripps Institution*. The MIT Press. Print.
- Wapner, Paul. 1997. "Governance in Global Civil Society." In *Drawing Insights From the Environmental Experience*, edited by O Young. The MIT Press. Print.
- Weinberg, Alvin. 1987. "Science and Its Limits: the Regulator's Dilemma." In *Hazards: Technology and Fairness*, 1st ed. De Minimis Risk. Print.
- White, Andy, and Ian Powell. 2002. "Developing Markets for the Ecosystem Services of Forests." Washington, D.C.: Forest Trends. Print.
- Young, Oran. 2008a. "The Architecture of Global Environmental Governance: Bringing Science to Bear on Policy." *Global Environmental Politics*, January, 1–20. Print.
- Young, Oran. 2008b. "The Architecture of Global Environmental Governance: Bringing Science to Bear on Policy." *Global Environmental Politics* 8 (1): 14–32. Print.

Young, Oran, F Berkhout, G Gallopin, M Janssen, E Ostrom, and S Vanderleeuw. 2006.
“The Globalization of Socio-Ecological Systems: an Agenda for Scientific
Research.” *Global Environmental Change* 16 (3): 304–16.
doi:10.1016/j.gloenvcha.2006.03.004.