Community Choice Aggregation: Technologies, Institutions, and Values

A Thesis submitted in partial satisfaction of the requirements for the degree Master of Arts in Sociology

by

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ABSTRACT

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Over the past decade, community choice aggregation (CCA) has emerged in California as a means to shift energy procurement decisions from investor-owned utilities to locally-controlled public agencies. In this way, CCAs use local control and the possibility of public participation to achieve substantive goals such as local renewable generation and cost-savings. While many policy documents and academic works have taken a wide view of the CCA policy movement, in this work I pursue a focused, grounded theory study of the CCA movement in Santa Barbara County to explore the following questions: What are the promises of community choice aggregation in Santa Barbara County, and under what conditions might they be met? I argue that those actors who have the most ambitious and full-fledged understanding of the promises of the movement are committed to generating positive socio-technical change in the energy system through energy democracy principles. I show how CCA policy is currently a disorderly bundle of contradictions, reaching toward energy democracy yet hobbled by structural and ideological eco-modernist constraints. Conceits to customer choice and cost competitiveness that are built into the structure of CCA policy itself serve to undermine the viability of CCA programs and, most importantly, limit the extent to which CCA can engage in local renewable generation. If CCAs are to be used to pursue radical energy system transformations, their advocates must confront the contradictions residing in the core of CCA policy. As such, I argue that in order for the
energy democracy aims of the CCA to be met, advocates must use insights from the energy democracy framework to move through eco-modernist constraints, especially by engaging in strategic planning to build local renewable generation early in program design and by cultivating meaningful public participation in energy questions.
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GLOSSARY

ACRONYMS OF SOME IMPORTANT GROUPS AND ENTITIES

CACE: California Alliance for Community Energy
CAISO: California Independent System Operator
CEC: Community Environmental Council
CPUC: California Public Utilities Commission
FERC: Federal Energy Regulatory Commission
IBEW: International Brotherhood of Electrical Workers
PEA: Pacific Energy Advisors
PG&E: Pacific Gas and Electric
PUC: Public Utilities Commission
SCE: Southern California Edison

KEY TECHNICAL TERMS REGARDING ENERGY SYSTEMS

Base Load Power Plants: plants that provide power continuously and are only turned off during maintenance; most typically generating power from non-intermittent sources such as natural gas, nuclear, coal, and large hydroelectric.

Built Environments: human-made surroundings, especially buildings and parking lots.

Distributed Energy Resources (DERs): localized electricity units that comprise microgrids; typically involving decentralized generation (localized renewables), system balancing (storage and load sharing systems), and demand reduction (energy efficiency) components.
**Energy Service Provider (ESP):** a private company that provides a range of energy services, including power generation and energy infrastructure outsourcing.

**Investor-Owned Utility (IOU):** a private entity acting as a publicly-regulated utility.

**Joint Power Authority (JPA):** an entity comprised of two or more public authorities permitted to jointly exercise power common to all components; here, a typical governing body of a CCA.

**Load Profile:** an illustration of the variation in demand and electrical load over time; used to plan how much power must be generated or purchased.

**Net Energy Metering (NEM):** a billing system that gives credit to small customers for excess electricity that is generated on-site, typically by solar photovoltaic panels, and transmitted back to the grid.

**Peaker Plant:** plants that provide power only when there is high or “peak” demand for electricity; most typically generating power from on-demand sources such as natural gas.

**Power Charge Indifference Adjustment (PCIA):** a charge assessed by IOUs, approved by the CPUC, and leveled on CCA customers, to cover generation costs acquired prior to severance of contracts.

**Power Content Label:** information regarding energy resources used to generate electricity.
**Renewable Energy Credit (REC):** a tradable, non-tangible energy commodity corresponding to the environmental attributes of energy produced from renewable sources; when unbundled, the renewable credit becomes separated from the actual energy produced.

**Renewable Portfolio Standard (RPS):** regulation requiring that a set proportion of power must be generated from renewable sources.

**Substation:** a node of an energy system where energy is transformed in voltage, typically from high to low.

**Utility-Scale Power:** power generated at facilities capable of generating 4 megawatts of power, though the cut-off is unclear; for reference, 1 megawatt of solar requires approximately 4 acres of photovoltaic panel (Narasimhan 2019).

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**KEY NON-TECHNICAL TERMS OF SPECIAL IMPORTANCE**

**Capitalism:** economic liberalism, which structurally mobilizes bureaucracy to depoliticize questions of public concern and ideologically mobilizes formal liberty to flatten questions of justice.

**Democracy:** governance by and for the people, with essential commitments to equality and consensus, enacted through participation in matters of public concern.
Eco-Logical Modernization, Eco-Modernism: frame for approaching the environmental problematique that acknowledges its institutional origins but argues that solutions must come through institutional reform, ultimately to maintain “business-as-usual” and enable regular market functioning.

Energy Democracy: frame for approaching the environmental and energy problematique that acknowledges its structural origins and argues that transcendence of injustices must come through a repoliticization of energy questions through decentralized, democratized, and fully participatory socio-technical reorganization.

Technoregion: a geographic region defined through physical connections of a single technological and infrastructural network, such as an electrical grid, highway system, or even a computer network.

USEFUL DISTINCTIONS AND COMPARISONS

Bureaucracy vs. Technocracy: bureaucracy is formal rule by a system of offices inclined toward centralization, while technocracy is rule by technicians, whether formal or informal, such as in corporatist or neocorporatist arrangements.

Community Choice Aggregation (CCA) vs. Community Choice Energy (CCE): CCA is a policy that shifts decision-making power over how energy is procured from investor-owned utilities to locally-controlled public agencies, while CCE is the particular CCA program name as proposed in Santa Barbara County.
**Curtailment vs. Intermittency:** curtailment is a response to overabundance of renewable energy, while intermittency refers to renewable energy’s irregularly alternating phases of availability.

**Macrogrid vs. Microgrid:** a macrogrid (neologism) is a centralized grid typically characterized by uni-directional flows of power, while a microgrid is a network of interconnected loads and distributed energy resources (DERs) with the ability to connect and disconnect from the larger grid and, often, share loads.

**Reliability vs. Resilience:** reliability is a system’s capacity to fulfill basic consumer demand for electricity, while resilience is a system’s ability to withstand disruptive events.

**Renewable Power vs. Greenhouse Gas- (GHG-) Free Power:** renewable power is derived from resources that are naturally replenished on a human timescale, inclusive of biomass, while GHG-free power does not emit greenhouse gases in its consumption, inclusive of nuclear power and large hydroelectric.

**Transmission vs. Distribution:** transmission is the process of carrying electricity from sites of generation to substations, while distribution is the process of carrying electricity from substations to sites of end-use.
I. Introduction

We are in a period of excessive centralization. In this book I shall try to demonstrate that in many functions this style is economically inefficient, technologically unnecessary, and humanly damaging. Therefore we might adopt a political maxim: to decentralize where, how, and how much is expedient. But where, how, and how much are empirical questions. They require research and experiment. In the existing overcentralized climate of opinion, it is just this research and experiment that we are not getting. [...] Therefore, I urge students who are going on to graduate work to choose their theses in this field.

Paul Goodman, People or Personnel?, 1965, 27.

This project begins with an epigram by Paul Goodman, wherein he presents the reader with a challenge. He argues that decentralization is good for enacting social experiments, good for organizing social action, good for cultivating democratic subjectivities, and good for pursuing human flourishing. He next suggests that graduate students should test how much decentralization is appropriate within the particular area of their expertise, and how it can be achieved. My work is inspired by this challenge. I consider community choice aggregation as a possible avenue for such decentralization and ask, What are the promises of community choice aggregation in Santa Barbara County, and under what conditions can they be met?

In 2002, California passed AB 117, which enabled the establishment of community choice aggregation (CCA), a mechanism by which energy procurement can be shifted from investor-owned utilities (IOUs) to locally-controlled public agencies. Through decentralization and the possibility for democratization, substantive commitments to environmental concerns and local generation may be pursued. In this work, I will explore the CCA movement in Santa Barbara County, identifying its principal aims, promises, and pitfalls. The future of the CCA in Santa Barbara County is far from written, and what follows is an intermediate account. There are, however, certain claims that can be made, and should be made, if the movement is to succeed in delivering on its stated goals.
The specific problems with California’s existing energy system that CCAs are designed to address vary according to the actors who articulate them. For state policymakers, the prevailing system prior to the passage of CCA policy was first highly monopolized, then ruinously deregulated; many policymakers saw CCA as a way to deregulate and introduce competition, generating cost-savings, but this time with more safeguards against the mayhem of the market. Meanwhile, environmental advocates sought ways to devolve control over energy systems to local levels so that more ambitious strides could be made toward cleaner energy. While these concerns were front-and-center among key institutional actors during the emergence of CCA policy, a suite of other problems abound with the existing system that have drawn the criticism of energy justice and energy democracy advocates. Centralization of energy production leaves certain areas vulnerable to outages, and possibilities for local green energy jobs go unrealized. Energy generated far away in disenfranchised communities is inefficiently transmitted over hundreds of miles to sites of consumption. Citizens are unable to directly influence the procurement and distribution of energy, such that important questions about our energy systems are removed from the arena of public debate. People are incapable of negotiating the terms of their service or advocating for more equitable or progressive pricing arrangements. In short, the existing energy system keeps those key questions about how to source energy, from where, and for how much out of the hands of the public. CCAs could be a way to bring those questions back to the people.

To understand the aims and opportunities of CCA, focusing on the movement in Santa Barbara County, I adopted methods of data collection and analysis resonant with grounded theory. Through in-depth interviews\(^1\) and participation at meetings, I was able to gain an understanding of this emergent phenomenon. In my field research, I was also able to

\(^1\) In most cases my participants consented to my use of their full names in my research, though I have chosen to use pseudonyms in most cases.
engage in participatory action research, wherein researchers participate in while studying an on-going intervention (Herr and Anderson 2005), which had three main benefits. I was able to gain the trust of my participants, I was able to test my emergent theories by checking with participants as events unfolded, and I was able to act and write about what I knew as I learned. It became my responsibility to demonstrate my knowledge, and this work is a manifestation of that commitment to scholar-activism.

My literature review argues for the use of the energy democracy framework in analyzing the CCA in Santa Barbara County. The energy democracy framework acknowledges inequalities in production, distribution, and consumption of energy; it then advocates the resolution of those justice concerns by repoliticizing energy questions through the cultivation of robust public participation (Weinrub 2017). The literature review then turns to substantiate three claims on which the energy democracy framework is grounded. First, the energy democracy framework is critical of existing bureaucratic systems of energy management; here, bureaucratic governance and the technocracies they bear disempower and depoliticize publics while enabling the collusion of state and capital (Marx [1871] 2000; Habermas 1962; Offe 1984; Landa 2009). In this work, capitalism is understood principally as economic liberalism, an economic system grounded in private ownership of the means of production; further, economic liberalism structurally mobilizes bureaucracy to depoliticize questions of public concern and ideologically mobilizes formal liberty to flatten questions of justice (Landa 2009). When oriented toward the environmental problematique, such bureaucratic management manifests as ecological modernization (Huber 1985), known on the ground as eco-modernism, which acknowledges the institutional origins of environmental problems, but argues that solutions must come through institutional reform (Spaargaren and Mol 1992). In a word, solutions are won through (bureaucratic) management rather than through (democratic) participation, and institutions are mobilized to make the playing field work for capital.
Beyond these critiques of the existing system, the energy democracy framework calls on literatures that strive to manifest a positive democratic project. As a second claim, the energy democracy framework calls for decentralization as a necessary though insufficient condition for democracy. Here, democracy is understood not as a set of practices and dictums — going to the polls, rule by majority, electing representatives — but as governance by and for the people, with essential commitments to equality and consensus (Woodruff 2006). The connection between decentralization and democratization is analyzed, recognizing as well the practical and subjective benefits of the kinds of participation made possible by decentralization (Goodman 1965; Flacks 1988). Third, an energy democracy framework relies on a new socio-technics that enables decentralized and participatory democracy, and so I turn next to fleshing out on what theoretical underpinnings these new ecological socio-technics can be built (Bookchin 2005). Finally, I explore how science and technology may be mobilized to serve the common good, both to clarify that energy systems do indeed require expert knowledge and to explore the connections between science and democracy. In sum, this section articulates an energy democracy framework as an important way to understand CCA as transformational policy that can be used to decentralize, democratize, and repoliticize our energy system, and to grapple with the challenges CCAs face.

If energy democracy occupies one polar solution to ecological and social problems, eco-modernism’s enduring bureaucratization of public matters occupies the opposite pole. These tendencies find themselves opposed in the movement for community choice aggregation. In this work, I do not attempt to chart a middle way between the two. While energy democratic and eco-modernist outcomes constitute termini of a continuum such that outcomes will fall somewhere between the two, purposefully aiming for such middling outcomes has no clear normative merit given the conclusions reached about the practical and ideational benefits of democracy. If eco-modernism is appealing because it is perceived
to be expedient, we should ask, *Expedient in doing what?* If democracy is eschewed, we should ask, *On what normative grounds do we cast it aside?*

Still, returning to an evaluation of present circumstances, community choice aggregation exists at the intersection of energy democracy aspirations and eco-modernist policy constraints. In Chapter One, I identify the creation of local renewable generation through distributed energy resources (DERs), or microgrids, to be the most central and most ambitious aim of CCAs. Decentralized generation is an *infrastructural* technology achieved through the novel *organizational* technology of the CCA. Together, CCA and DERs democratize energy by putting decision-making powers in the hands of communities. Moreover, CCAs and DERs bring our energy system in line with communities’ substantive commitments to local economic and ecological resilience. Most profoundly, this is done by reversing the polarity of energy systems so that one-time consumers may now also be producers and managers of energy. According to energy democracy-aligned CCA advocates, this kind of energy insurrection requires community engagement and strategic planning of CCA programs.

Hindering these energy democracy aspirations are a host of eco-modernist policy constraints that serve incumbent IOUs. Ecological modernization, the theoretical foundation of eco-modernism, emerges from a *longue durée* of bureaucratization and rationalization of matters of public concern, but it also manifests in particular ways in the context of California energy policy. In Chapter Two I chart these features and lay the foundation for the bulk of my work by showing how eco-modernist policy constraints stifle the radical potential of CCAs as conceived of in the eyes of energy democracy advocates. In this context, eco-modernism is a loose discursive bundle of commitments designed to address ecological concerns through strategies that protect existing business interests. Doing so requires the flattening of community members to consumers and weaponizing free
market ideologies that privilege cost competitiveness — supposedly for the ratepayer’s sake — to keep CCAs anemic and incapable of developing local renewable generation.

In Chapter Three, I explore the specific eco-modernist constraints of CCA policy. The crux of the issue here is that, according to prevailing market logics that privilege economies of scale, DERs remain expensive, and so long as CCA policy includes “customer choice” to opt out of CCAs and rejoin IOUs, CCAs must be committed to low rates, stacking the deck in favor of IOUs and against decentralized energy. This contradiction between energy democracy and eco-modernism yields two distinct policy positions within the CCA movement: those who are staunch energy democracy advocates and those who are more willing to cleave toward eco-modernist policy constraints. In Santa Barbara, the energy democracy advocates have tended to work “outside” of CCA program design and have advocated designing the program from the ground up, especially with local renewable generation projects, to cultivate meaningful community participation. The latter, structurally and ideologically more adherent to eco-modernist policy constraints, occupy government staff and other “inside” positions. In Santa Barbara they pursued a technical feasibility study to assess the simple economics of the program without addressing what kinds of local projects and programs they would engage in. Moreover, they elected to hire consultants who, in the words of energy democracy advocates, had no structural interest in building a successful program and thus had no “skin in the game.” In short, Santa Barbara had started by vying for approval for the project on strictly fiscal grounds and had excluded strategists and stakeholders who wanted to focus on specific projects to gain support from the community.

The results of the first such technical feasibility study were unfavorable. In Chapter Four, I examine the feasibility study, itself a product of “insider” negotiations undertaken without considering the advocacy of those who wanted to push for strategic planning and at-risk consultant work. I explicate how it was presented before the Santa Barbara County
Board of Supervisors and how key stakeholders in the CCA advocacy community discussed it. The feasibility study provided an opportunity to see how actors responded when the plan to achieve environmental ends through a democratized process encountered challenges, which themselves can be understood in light of IOU maneuvers against CCAs. I also explore how little the actual results of the feasibility study seemed to matter politically: though the program was deemed infeasible, the County still voted to continue pursuit of the CCA through more feasibility studies. Likewise, when a second feasibility study was conducted and returned favorably in the months following, the County voted to pursue the formation of a CCA by the same margin and with the same politicians on each side of the issue. In both cases, the resolve of the Board challenges the assumption that CCAs will sink or swim purely on their perceived economic feasibility. Instead, the feasibility study is framed as a boundary object (Owens 2015) used to help make claims, but its capacity to do so is limited by the lack of consensus built up around CCA advocacy between North and South County actors. The principal take-away of this section is that greater commitment to negotiation and consensus-building, as well as greater efforts at strategic planning, could have helped manifest expert consensus and could help the CCA movement in the future.

In Chapter Five, I consider the role of IOUs vis-à-vis CCAs. CCAs do not operate to the exclusion of IOUs, and because IOUs continue to maintain and operate transmission lines, they actually help make CCAs a relatively easy first step toward publicly-owned power. Moreover, so long as customers are allowed to opt out of CCAs and remain with incumbent IOUs, CCA advocates may argue for CCAs on the grounds of “customer choice,” a key element of free market ideology. In this way, IOUs are kept at the table on material and ideological grounds. But so long as they remain at the table, CCAs are required to make concessions to IOUs to ensure they remain financially solvent, such as through power charge indifference adjustments (PCIA). PCIA costs in turn keep CCAs financially starved and limit the extent to which they can engage in local renewable generation. Thus, through
a corporatist arrangement, framed in discourses of the free market and customer choice, the existing business interests of IOUs are maintained and community demands are flattened to simple consumer demands. Finally, I suggest that corporatist leanings even within CCA advocacy groups effectively weakens opposition to IOUs, whose dominance is rarely challenged fundamentally.

I conclude the work with a series of suggestions as to how the aims of community choice aggregation may be met in Santa Barbara County. These solutions center participation, engagement, and strategizing to design programs that can inspire public concern: in a word, solutions are realized through the energy democracy framework. In this way, the energy democracy framework is not simply a dreamy aspiration, but a real strategy for working through the contradictions inherent in CCA policy and manifesting workable programs. The goal here is to repoliticize our energy systems so that energy may be produced, distributed, and consumed more equally and in a way that advances community goals. The case that I engage with in this work is narrow spatially and temporally, and its primary purpose is to be useful to local advocates as they struggle for energy democracy, local resilience, and habitable futures. At the same time, while my research question asks specifically under what conditions the promises of community choice aggregation might be met, as CCA is understood within the context of democracy, bureaucracy, and capitalism, this modest question soon begets larger ones: Can democracy and capitalism coexist? Can public power flourish under conditions of business-oriented solutions? Or do these two tendencies manifest such a contradiction that one must be cast aside in favor of the other? My analysis suggests the latter, and asserts a strategic and moral demand that we fight for democracy against the constraints of existing business interests. The resilience of our communities and our planet depend on it.
A. Methods

1. The First Forum

Across the atrium to the downtown branch of the Santa Barbara Public Library is a room called the Faulkner Gallery. The ceilings are high, and local art covers the walls — an exposition of Santa Barbara’s fondest imagery. A sunset on Butterfly Beach, a girl in a pink straw hat, a dragonfly’s wing iridescent in midday sun. If Santa Barbara had a community refrigerator, this would be it. There’s standing room only, a panel with name cards, a friendly woman filling paper bowls with peanuts, rice crackers, and tiny cookies to be served with plastic spoons onto Chinet plates. The projector is on, and an older man wheels out another rack of chairs and places one before me. As I settle with paper and pen at the forum on June 7th, 2017, I look around for the familiar faces. The Greens are out in droves. The regular cast of grey-haireds, newly “woke.” I’m encouraged to see a younger showing as well, and others I’ve never seen before.

The Community Environmental Council had been working on building the movement for community choice aggregation (CCA) in Santa Barbara County for a decade. CCA promised to use local control over energy procurement to achieve higher renewable standards, at rates competitive with utilities, with reinvestments into local generation and efficiency programs. In June 2015, $50,000 was granted for a feasibility study to determine if a CCA spanning Santa Barbara County, with parts of San Luis Obispo and Ventura Counties, would be “right for us,” in the words of Amy Parker, the Renewable Energy and Efficiency Specialist for Santa Barbara’s Community Environmental Council (CEC).² The results of the study, the audience was informed, would be out any day now. Surrounded by so many earnest supporters, inhabiting a planet that is dying, I had to ask who this plan would not be right for. Which “us” were we trying to appease? Were they here in this room?

After a short, eager introduction from Parker, a slew of speakers representing CCA initiatives across California took the podium. Five bright, succinct, and indomitably peppy orations from speakers who started their talks with zeal (“I’ve got a really amazing story to tell you...”), with flattery (“This is an amazing crowd!”), with innocuous humor (“I know I’m from NorCal, but...”). And it truly was inspiring. It seemed so within reach. Jennifer Cregar, project supervisor at Santa Barbara Community Services’ Energy and Sustainability Initiatives, heralded as the “Beyoncé” of the city council chambers of the South Coast, emphasized local control as the path toward our renewable energy goals, local energy production, economic development, energy security — and most people wouldn’t even see a difference. J.R. Killigrew, our delegate from Marin County, site of California’s oldest CCA dating back to 2010, had a lot to say about quality of life concerns like clean air and emphasized community control and union jobs. Mary Romano had come from Lancaster, the dark horse municipal CCA powering a conservative desert town under the command of notoriously autocratic Mayor Rex Parris. She focused on how the benefits from the CCA had flowed back into the community as economic resilience and energy security. She too stressed how consumers wouldn’t even be able to tell the difference on their energy bills. Gary Gero from L.A. talked strategically about diversifying the energy economy, and Joe Galliani from the South Bay, using energy justice language, framed the CCA as a moral obligation. Community action was needed, he insisted, in light of the “failings of the federal government.” The room murmured knowingly.

Over the course of the next year, from summer 2017 to summer 2018, I would engage in a series of in-depth interviews and participant observation field studies to gain an understanding of the chief goals of community choice aggregation and how those goals could be hindered by external pressures from outside actors and internal policy contradictions, as well as how they might be helped. My work has been grounded in trying to grapple with and faithfully fathom how actors within the Santa Barbara CCA advocacy
community understand the movement, and how their decisions have been informed by ideology and by structure. My efforts here have been to construct grounded theory by meeting with key players, showing up at meetings, and becoming an advocate for the movement myself.

Because I embarked on a study of an ongoing movement, surprising ethical considerations quickly came into play. My research does not deal directly with marginalized groups, and for the most part my participants have shared views that they have indeed elsewhere shared publicly. To be sure, if analyzed incorrectly or released without care, my work could damage their careers, but for the most part my study has remained ethically low-risk vis-a-vis my participants. Instead, a key site of ethical consideration became the movement itself. My focus on CCAs emerges not from academic interest or opportunism, but from my dedication to the environmental justice movement and eco-decentralism as a tactic to achieve just, sustainable futures. As such, I see myself as using participatory action research while engaged in a scholar-activism project, and I feel obligated to my subjects and to my own political and normative commitments to help the movement for CCAs. At the same time, my research has revealed serious flaws and complications that CCAs face in attempting to articulate clean public power. At times, it has been difficult to navigate how to support CCAs while undertaking their rigorous study. My hope is that this work will provide constructive criticism. To this end, this work concludes with a variety of suggestions for how the movement might best move forward.

As I proceed with my research, I look forward to being able to return to my subjects having developed some insights that can serve their movement. Not only do I owe it to my subjects to offer something back to them for their generous cooperation, but their insights on my work will be invaluable in testing the rigor of my concepts and will help me iteratively co-create the robust analysis worthy of scholar-activism.
2. Why Sociology? Why Qualitative Methods?

As it stands, much of the literature surrounding community choice aggregation ushers from either political science or urban planning departments. The former approach is well-suited to analyses of distributional power, while contributions from the latter school usually privilege technical solutions. Both a rigorous analysis of power and a focus on solutions will be essential to my work, especially because I hope that my work will inform activism reflecting an energy democracy framework. At the same time, I argue that a sociological approach, especially one emphasizing qualitative methods, has much to offer the conversations surrounding CCA.

Sociology sometimes occupies an awkward position among other disciplines: it both tries to stretch across too many fields and scrambles to keep its footing among emerging disciplines with narrower empirical focuses. These tensions prompt something of an identity crisis for sociology, and as such, it might be useful to develop a working definition of sociology. Sociology arises historically with modernity, and especially with its critics. The work of Marx, Durkheim, Weber, and Dubois in the late nineteenth and early twentieth centuries called attention to the particular problematiques of the modern age, which witnessed a sundering of traditional social ties. Newly individuated subjects were thrust into a newly heterogeneous social field of state, capital, and civil society, which emerged from the fracturing of feudal systems of power. Sociology responds by trying to make sense of how these new individuals position themselves in society, and how tensions among different blocs continuously reshape the social. Sociology is also interested in developing general theories and working at high levels of abstraction. In sum, sociology is a modern discipline that attempts to grapple with the relationships among novel assemblages of the state, capital, and civil society, and attempts to develop broad theories of power and change.

As Samuel Jung’s work on community choice aggregation shows, CCAs and energy procurement policy more broadly engages with political motivations, capital demands, and
social needs (Jung 2017). Because sociology engages with the breadth of problem areas involved with energy procurement debates, it is well-suited to developing a rich analysis of the promises and problems of securing public power through CCA. Jung’s analysis, rooted in urban planning frameworks, can be extended through a deeper engagement with areas of interest important to sociology, such as civil society, as well as more theoretical engagements with concepts of state and capital.

My research question inquires, *What are the promises of community choice aggregation, and under what conditions can they be met?*; as such, my study necessitates a qualitative approach. Qualitative research addresses how and why questions, including perhaps the underlying question, *How do we create new futures, and why do we fail?* Further, actors involved with CCAs express ideas and act in relation to institutions, discourses, and other actors. Much of my research will explore these network effects, which qualitative research is (still) uniquely suited to. Most importantly, qualitative research attunes to complex, emergent phenomena. Assessing CCAs requires that we understand the friction between ideals and the reality of their application, that we explore fugitive motivations, that we inhabit different epistemes, that we stay nimble. In these early, exploratory stages of CCA studies, qualitative methods are essential.

At the same time, later stages of analysis will surely require quantitative methods. Once preliminary theories develop through my engagement with the field, I will be able to get a sense of the kinds of quantitative questions I can pose. For example, I anticipate using quantitative methods to provide empirical answers to questions such as whether ratepayers would be willing to pay more for local renewable generation, whether public participation in decision-making processes is associated with greater dedication to substantive commitments, and if in other CCA programs formal models of such public participation is associated with higher levels of corporatism or deliberation in those programs. With these
quantitative projects on the far horizon, I commence with more flexible, qualitative questions.

3. Prismatic and Dialectic Knowledge

Broadly, my methodology is based on Michael Burawoy’s ethnographic work, which centers the co-constitutive relationship between the researcher and the case. For Burawoy, the researcher goes into the field not as an outside observer, but with the intention to embed themselves in the environment of the case study. Here, we are invited to imagine “engagement as the road to knowledge” (1998, 5). The researcher is expected to cultivate their own knowledge through continued engagement with their case. As such, there is no clean separation between researcher and subject, and instead the subject and object are co-emergent. The work of the researcher, then, is integrative. This approach requires that the researcher be reflexive about what notions they bring to the table.

Expanding on Burawoy, two broad theoretical commitments have shaped my approach to qualitative methods, which I will term the prismatic and the dialectic. A prismatic orientation simply means that research is most useful when it engages subjects and fields from a range of different perspectives. In Kantian terms, the position of the phenomenon encounters only a piece of the noumenon: each perspective is capable of revealing only partial knowledges of a common reality, while none can tell the whole story. In some postmodern discourses, this destabilization of objective knowledge prompts a crisis of representation wherein all researchers become authors of equally valid texts (Lofland 2006). Still, there are other — and surely much more satisfying — ways to respond to the very real problem that different perspectives bring different ready-made insights to bear on knowledge production. Lofland recommends that this insight regarding partial knowledges should quicken us to the task of more critically and rigorously working through our data and inviting those we study to talk back, contributing to the dialectical, iterative practice of
research explicated more fully below (2006). In a word, the postmodern turn should prompt us to be diligent researchers, not hopeless or indifferent ones.

Much feminist epistemology takes seriously the task of recognizing difference among situated knowledges while affirming social realism against relativism. Donna Haraway argues, “[t]he alternative to relativism is partial, locatable, critical knowledges sustaining the possibility of webs of connections called solidarity in politics and shared conversations in epistemology” (Haraway 1988, 584). In this way, the recognition of a plurality of situated knowledges leads not to the evacuation of knowledge, but its resilience. The kinds of situated knowledges favored by feminist researchers are not charitable nods to disempowered groups. Instead, we should attend to situated knowledges because they are in fact the only forms of knowledge (Haraway 1988; Taylor 1998; Charmaz 2014). The objective, decontextualized, indifferent gaze, the “god trick” Haraway rejects as “signify[ing] a perverse capacity...to distance the knowing subject from everybody and everything in the interests of unfettered power” (1988, 581), is an epistemology of domination that “eye fucks the world to make techno-monsters” (1988, 581). Put simply, prismatic knowledge should not reduce our world to a flattened difference, but should instead be used to create a richer image of the real, and thus allow us to better challenge the false universal of our mutual oppression.

In my own research, a prismatic epistemology has been important thus far in directing my choice of which subjects to research. I engage actors from a range of different positions, including grassroots activists, leaders in more institutionalized movements, government workers, and a union organizer. As my research progresses, I plan to study with less elite actors, though my analysis thus far has centered around key informants. I also visited a range of different field sites, including local governance meetings, grassroots activist meetings, sustainability summits, and clean energy strategizing meetings.
The flip side of some postmodern theories’ panicked suggestion that the crisis of representation renders all truth empty is the condescension that each viewpoint exists somehow as its own essential truth, immutable and beyond reproach. Again, navigating epistemological questions should prompt rigor, not defeat. What actors say about themselves should never be taken at face value (Haraway 1988), nor should inaccurate data be thrown aside (Charmaz 2014). It will be most useful to not attempt to see through the dirty glasses of qualitative inquiry, but instead try to see how our vision is distorted. Ultimately, achieving objectivity is not the goal here. Instead, knowledge must be understood relationally, as part a dialogue, a point to which I will return shortly. A prismatic approach to methods also entails a study of what actors say, what they do, and what they say about what they do. Perhaps the most important contribution of qualitative methods to any research project is that it allows us to better triangulate knowledge and map the complex and often contradictory behavior of our subjects.

In my work, I have tried to understand my participants’ statements themselves as amalgamations and sometimes conflicted assertions about their commitments to ideology, feelings of structural constraints, efforts to smooth contradictions in messaging, and desires to convince, teach, and assert authority. I also became aware that different participants were able to speak with full conviction, while others planned their statements more strategically. Some participants, such as the participant from the California Alliance for Community Energy, knew me from previous campaigns and occupied an “outside” position to policy formation. As such, they were able to state bluntly their ideological commitments. Figureheads in institutional environmental groups and county positions played their cards closer to the chest and often gave canned responses to difficult questions, while intimating points of contention with more subtlety, sometimes directing me to other sources of information so that I could put the pieces together myself and on my own time. Still others, including the participants from the International Brotherhood of Electrical Workers,
Southern California Edison, and the retired participant from the American Public Power Association took the opportunity of the interview to teach and convince, often through repetition of key terms. The statements gathered from my interview subjects were thus never simple, faithful communications, but came as bundles of commitments, anxieties, performances, and aspirations.

From here, a dialectical approach to knowledge production has been essential for understanding how participants and researchers create knowledge together, as well as for the development of theory through what Burawoy has termed the extended case method (1998). In the dialectical tradition of Hegel, Marx, DuBois, and many others since, subjects only exist in relation to one another. If subjects are knowledge bearers, it stands to reason that epistemology also exists as a mutual construction among actors. If it is indeed reasonable to make this leap from ontology to epistemology, we might reasonably develop a methodology of knowledge creation that takes intersubjectivity as a starting point.

To this end, I have pursued participant observation and in-depth interviewing so that I can center this relationship between researcher and subject as a source of knowledge (Lofland 2006). This approach to data collection must be brought to bear on later stages of analysis as well. To approach plausible development of theories and address issues of validation, researchers can engage in iterative work, relaying their findings back to subjects as a check on observational and interpretive errors (Charmaz 2014; Lofland 2006). As a student of social movements, I find resonance between this dialectical, iterative approach and the Maoist tactic of the mass line (Mao 1965). In the Maoist tradition, vanguardism is subordinated to popular and organic knowledge, which emerges from praxis.

In one illustrative case of dialectical research, I was able to engage in a series of email communications with the participant from the IBEW to clarify the union’s support of the CCA so that I could better craft a presentation I was working on in collaboration with members of 350 Santa Barbara. The opportunity to reflect back my impressions of our
meeting revealed gaps in my knowledge that otherwise may have gone unchecked. Moreover, I found that the more engaged I became with my field sites, and the more of my own thoughts and motivations I shared during interviews, the more my participants opened up to me and shared their core values. Toward the end of my data collection, I gained the appreciation of Jennifer Cregar, the participant who, I had felt, regarded me with great suspicion. Upon leaving a city council meeting in Buellton, California, after I’d read a letter from the IBEW participant, Cregar patted my shoulder and commended me for my messaging. To put it lightly, this was a gratifying moment for me. At the same time, I found that my analytic codes often outstripped my immic codes, and it is likely that many of the insights I have developed in this work might meet resistance by my participants. While I consider it my duty as a scholar-activist to make my work legible and important to the communities I intend to serve, simply because some of my analysis might not be welcome by some actors should not suggest that my analysis is incorrect.

A dialectical approach contributes positively to methodology, and it can also help in developing theory. My work is based in the grounded theory tradition, a set of methods that “consist of systematic, yet flexible guidelines for collecting and analyzing qualitative data to construct theories ‘grounded’ in the data themselves,” with an emphasis on staying close to data and attempting to understand our participants’ experiences holistically (Charmaz 2014, 2). While grounded theory might begin with sensitizing concepts (Charmaz 2014), I have found that staying close to my data and resisting easy assimilation of new concepts into more entrenched patterns of analysis has yielded new codes and concepts. In this way, grounded theory does not test existing theory, but works to extend it (Burawoy 1998). Here, researchers can take up anomalous, complex, or emergent cases to understand fugitive or fringe phenomena. Studying Santa Barbara as it managed the turmoil of a failed feasibility study constituted an extended case study, since at the time of my data collection, no other CCA venture had been dealt so bad a hand by their feasibility study. As such, the case
provides an important opportunity to examine the contradictions between eco-modernism and energy democracy in full light. Studying this case allowed me to examine, for example, how different advocates who were all committed to the CCA’s success responded to the bad news, and how political formations accommodated the results. The extended case method approach asks, \textit{What happens on the borderlands of known experience, and when can our existing theories no longer hold?} In a sense, then, we can see this emergence of theory as akin to the dialectic of negativity (Hegel [1807] 1977). Here, history moves through working out contradictions such that those contradictions are never fully resolved, nor pasts wiped clean. Similarly, in extended case methods, older theories are never tested and disproved, but only complicated and extended. The shape of extended case method is the shape of the dialectic.

4. Data Collection

Because my research engages complex, emergent phenomena and amorphous social experiences, I elected to conduct the bulk of my study through intensive interviews (Lofland 2006). At this stage in my work, I have focused on semi-structured, in-depth interviews with key informants to obtain descriptive information most efficiently while leaving room for open-ended discussion and reflection (Blee and Taylor 2002). In selecting subjects, I have privileged completedness over representativeness, understanding that theoretical sampling is the best way to achieve theoretical saturation (Blee and Taylor 2002; Charmaz 2014). For my work, this has meant purposively sampling subjects from a range of different positions in the CCA movement, including an anti-institutionalist environmental organization founder, a more well-established environmental organization leader, a policy-oriented environmental advocate, a city government worker guiding a prospective CCA movement, a city government appointee specializing in an active CCA, and an electrical union leader. I met some of my interview participants in the field at community and
government meetings, though many were also recommended to me by participants as I interviewed them.

One important limitation of my study is that I only conducted interviews with CCA advocates, save for my interview with a SCE representative who claimed to be neutral on the subject. During my work in the field, I encountered an array of CCA detractors, but I did not solicit interviews with them. I decided to focus my work on CCA advocates because my interest has been in conflicts and contradictions within the movement for CCAs. At the same time, detractors and critics would certainly have important insights regarding the movement from outside the fray. As I continue my study, I will engage these critics as well.

Another important limitation of my work is that I have focused my analysis in Santa Barbara County. Due to that limited geographic and cultural scope, my findings should not be too liberally transferred. This limitation is not overly vexing, since I am principally interested in using my scholarship to help the movement in Santa Barbara County, and because I intend to venture farther afield in my subsequent work.

I conducted fourteen interviews, including ten in-depth interviews, two informal interviews of around twenty-five minutes, and two informal focus-group style interviews where the intention was to collaborate on presentations about the CCA and strategize about how to help build the movement. After gaining consent from my participants, I recorded and transcribed the in-depth interviews. During the informal interviews, I took notes by hand. I conducted my first interview with a few structuring questions hoping to begin by roughly charting the terrain. Mostly I wanted to get a sense of the promises and pitfalls of CCAs from an environmental leader’s perspective. I quickly realized the importance of doing my homework and found myself quite over my head regarding the intricacies of energy policy. In later interviews, I retained some preliminary questions while building a larger repertoire of questions that (a) I needed technical answers to, (b) would have particular salience or relevance to particular actors, and (c) spoke to new codes that I had
developed through my preliminary coding of previous interviews. In this sense, my method for compiling new interview questions was iterative, requiring that I pivot between existing interview data and new subjects (Lofland 2006). The Appendix contains more information about the people I interviewed, why I decided to interview them, and important insights gathered from each.

While intensive interviews proved best for charting amorphous social experiences, participant observation proved crucial for gathering temporally and spatially bounded information (Lofland 2006). I conducted sixteen participant observations, lasting around two to three hours each, to study public government meetings such as city council meetings and county board of supervisors’ meetings, as well as public forums such as the Central Coast Sustainability Summit and Clean Energy Community Meetings. I took field notes
during these observations and, when they were available, watched publicly available video recordings later so that I could take more precise notes. Where interviews gave me insights as to what my subjects said, and said about they did, participant observation allowed me to see what subjects actually do and how they negotiate conflict as it unfolds (Lofland 2006). For example, while the focus of this work lies elsewhere, attending a wide variety of public and semi-public events allowed me insights as to which settings preclude participatory deliberation, which foster only directionless communication, and which are actually conducive to productive dialogue. Further, I could get a sense of how these matters were discussed publicly and engaged with by the public, as well as how actors managed new information as it was brought to light. Here, observations of governmental meetings were most telling. My field observations also gave me the opportunity to conduct analyses of talk in action, such as when my interview participants made public comment, and informal interviews before and after meetings as alternative methods to prismatically understand my area of research (Lofland 2006).

Gaining access to field sites and interviews was relatively easy for me both because of the nature of my field and my own biography. My field research has been conducted solely in public spaces such as city council meetings and sustainability events open to the public, so no special permissions were required. At the same time, these nominally public spaces are not actually made to be accessible to all members of the public. Santa Barbara City Council Meetings are held from 2 PM to 5 PM on Tuesdays, and they are conducted according to strict procedures that might seem byzantine or unintelligible to many, especially those of marginalized communities. The Central Coast Sustainability Summit required a $20 admission fee, ostensibly to pay for the complimentary lunch buffet. Because I am educated and enjoy some financial stability, my field sites were easy to gain access to. Still, this ease of entry perhaps says more about my own biography than the accessibility of those field sites. At the same time, because my activist work is considerably
more radical than my current project, I remain concerned that my biography might have turned some actors off to my scholarly work. In part because of these concerns, in my early observations, I abstained from participating too vocally in public meetings, and I quieted my radicalism while conducting interviews. The Appendix also includes is a brief account of each field site I visited and what I was able to learn there.

5. Data Analysis

To ensure the soundness of my qualitative research, I have used a four-part construct for assessing trustworthiness of data collection and analysis developed by Andrew Shenton (2004). This construct includes credibility (How congruent are the findings with reality?), transferability (How far can readers be confident in transferring to other situations the results and conclusions presented?), dependability (If this work were done again, would we receive the same results?), and confirmability (Are the findings the result of experiences and ideas of the participants, rather than the characteristics and preferences of the researcher?) (2004). I have attempted to satisfy these four constructs, taking Shenton’s work as a guide, as explicated below.

In pursuit of credibility, I engaged in purposive sampling of participants with whom I came into contact by gaining familiarity with the culture of participating organizations, and by triangulating data through consulting transcripts, field notes, and video logs of interviews and participant observation (Shenton 2004). I helped ensure honesty of participants by soliciting their voluntary participation, by giving them the option to remain confidential, and by making it clear that my own purpose of study is to better understand the policy and the movement so that I can help make the movement more effective. In each interview, I sought to build and confirm a faithful account of the participant’s thoughts and feelings about CCAs. Throughout my data collection phase, I used member checking (asking for clarification and additional insights on my interpretations of participants’ statements) to
test my insights both with new participants and through emails with past participants. Most of all, my data are trustworthy because I am a cultural insider of the community of CCA advocates (Shenton 2004).

Because of the extremely local nature of my work, and because the purpose of this work is to develop some theories for use specifically by local actors, I am not overly concerned with transferability. Later in my work, it would contribute to the transferability of my findings to use similar interview protocols with similar populations to test whether I find similar results. In my ongoing research into CCAs in other communities, I have uncovered similar dynamics, themes, and problems as those I found in Santa Barbara. While each community confronts a highly specific set of circumstances, the insights gained from a close analysis of Santa Barbara CCAs are highly useful for understanding these other communities. This comparison will be explored in my forthcoming work on CCAs. Analysis from this case can help me understand other cases. Here, transferability is addressed not by attempting one massive study in isolation, but in gaining a sense of a phenomenon gradually, progressively extending the case study (Burawoy 1998). Moreover, the aim of research should be to respect the context of each particular case rather than pruning unruly cases in service of broad application.

Dependability has necessitated a careful record of my research protocol such that the reader may “assess the extent to which proper research practices have been followed” (Shenton 2004, 71). To that end, I have included a detailed account of my research design and its implementation, including why certain decisions were made, the operational detail of data gathering, and reflective appraisals of the project throughout. This detailing will provide the reader with an account of my “progressive subjectivity,” or how my ideas have developed throughout the project (Shenton 2004, 68).

Confirmability here has required constant attention to be sure that the claims I make regarding my participants’ statements are “responsible to reality” (Putnam, page 4 of
Threefold Cord). I have used triangulation to reduce investigator bias. Moreover, I have endeavored to be as explicit as possible in divulging my coding schemes, as well as which ideas emerged directly from my conversations with participants and which were inspired by outside research. The aim here is to make available an “audit trail” so that other researchers may check my work.

In addition to Shenton’s guidance, Charmaz’s work on grounded theory has helped discipline my data analysis. Charmaz offers ways to analyze data that do justice to actually existing phenomena by coding actions and processes rather than themes and structures (2014). While theoretical codes become important, and we should not disregard our preconceptions entirely, they must earn their way into our analysis (2014). Speaking to a similar approach, Alexander Davis suggests “balanc[ing] theoretically informed codes with inductive codes driven by recurrent themes” (Davis 2015, 965). In my experience thus far, I have found his insights have helped me keep my analysis close to the data. I used content analysis to interpret my data and began generating codes through an open-coding system as I proceeded with my work, which steadily deepened my interaction with my data and proved essential for researching this emergent phenomenon. I found overlaps and distinctions in those initial codes, and through this process, I began to discern that several more or less distinct camps had developed among CCA advocates in Santa Barbara County.

I began my analysis with several key theoretical concerns in mind. First, I wanted to explore the relationship between process and substance. As such, I was intrigued early on by my participants’ suggestion that the process of locally-controlled public agencies could enable the pursuit of substantive commitments to local renewable generation. Next, since the first forum held in June 2017, I had recognized that two dramatically different discourses were wrapped up in public communications about the CCA. CCAs promised local control, which fit well with energy justice discourses, but it was also grounded in customer choice and cost-savings. Because I did not hear my participants refer to energy justice
explicitly, I decided to describe those commitments to local control of renewable generation as a commitment to “energy democracy.” I later began to explore the literature on energy democracy at the suggestion of one of my participants. In this work, I use the energy democracy framework as a term to denote an analytic tool, and energy democracy *simpliciter* to denote its on-the-ground practice, though the two concepts are connected.

As the literature review will demonstrate, the energy democracy framework is grounded in insights issuing from energy justice discourse. Energy justice is concerned with inequalities in how energy is generated, how it is distributed, and how it is consumed (Partridge et al., 2018); the energy democracy framework presents just one pathway toward a solution through public reclamation of energy questions, emphasizing participation and the interaction of economic and environmental resilience (Weinrub 2017). In this work I have emphasized the energy democracy framework over energy justice because the former framework was more salient to my participants. I heard much mention of energy democracy commitments such as local energy resilience, local generation, distributed energy resources, and open democratic decision-making procedures. On the other side, concerns more resonant with an energy justice approach — problems of pollution at sites of extraction and generation, regressive energy pricing, as well as a myriad of oppressions breaking down along lines of race, gender, class, and nationality — were not central to my participants’ remarks or understanding of the CCA movement. This is not to say that energy justice and energy democracy are oriented toward entirely different problematiques, simply that they have slightly different emphases. In this work I have centered energy democracy, though I anticipate future work will explore the energy justice challenges in Santa Barbara County more fully.

As I began to study more in the field of environmental policy, I became more familiar with ecological modernization, which has been used alternatively in the literature both as the culmination of a long history of bureaucratic and corporatist problem-solving
and as a loose discursive bundle of commitments to sustainability through “business-as-usual” institutional reforms and market devices. Seeing important resonances between on-the-ground references to customer choice and cost-savings and academic explications of ecological modernization, I began to code certain statements as being more or less committed to “eco-modernism,” or at least more or less adherent to the constraints of eco-modernist policy. I use the term “eco-modernism” to denote on-the-ground practices, discourses, and constraints, while I use the term “ecological modernization” to refer to a theoretical framework that bears a relationship to eco-modernism analogous to the relationship between the energy democracy framework and energy democracy simpliciter. Eco-modernism became a sensitizing concept in my work (Charmaz 2014).

I began to see several topics where these concepts of energy democracy and eco-modernism were especially salient and variable, including participants’ orientation toward IOUs, the importance of local control and participation, emphasis on local build-out, and emphasis on customer choice. A rough schema of these codes and their topics can be found in Table 1, with specific clarifying subtopics in parentheses.

I also recognized that aspirations toward energy democracy and recognition of certain eco-modernist constraints were not mutually exclusive, nor were they conditioned simply by ideology. Rather, I found that ideology and a participant’s positionality within the movement interacted to condition their commitments to energy democracy and eco-modernism. Some participants, for example, were perhaps more constrained by their role in the movement, especially if their work required exchanging information with investor-owned utilities or convincing more conservative politicians to pursue the policy. Others had more of an outsider position in program building, and were thus perhaps more able to make radical statements supporting energy democracy.

From there, I started to see other contradictions and conflicts emerging around two distinct ways that participants tried to manage the contradiction between aspirations
Table 1. Key Codes and Sensitizing Topics

<table>
<thead>
<tr>
<th>Topic</th>
<th>Eco-Modernist</th>
<th>Moderate</th>
<th>Energy Democracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation Toward IOUs</td>
<td>Cooperative (regarding IOUs as partners)</td>
<td>Suspicious (desiring more transparency with PCIA calculations)</td>
<td>Oppositional (suggesting IOUs are working to undermine CCA feasibility)</td>
</tr>
<tr>
<td>Importance of Local Control and Participation</td>
<td>Just a Tool to Get More Renewables (willing to abandon CCA to try different tactics)</td>
<td>Promising Mechanism (worth fighting for, but mostly in service of greater renewables)</td>
<td>Strategic and Intrinsic Good (explicit interest in cultivating participation)</td>
</tr>
<tr>
<td>Emphasis on Local Build-Out</td>
<td>Not Important at Early Stages (far-off goals)</td>
<td>Could be Feasible (interest in exploring)</td>
<td>Necessary to a Functioning Program (possibility of changing distribution entirely)</td>
</tr>
<tr>
<td>Emphasis on Choice</td>
<td>Program Essential (presented as a core value)</td>
<td>Strategic Utility (use post-2001 crisis policy carve-out to achieve community choice)</td>
<td>Not Important (did not come up in interview)</td>
</tr>
</tbody>
</table>

...toward energy democracy and eco-modernist constraints. Some favored strategic planning among stakeholders with “skin in the game” who were committed to local benefits from day one (Taleb 2017, 3). Others favored separating the technical feasibility study from the program planning process, effectively putting energy democracy commitments on the back-burner while they managed purely fiscal issues. It occurred to me that these two strategies were related to participants’ commitments to energy democracy versus eco-modernism, though I recognized that there was no necessary equality between ideology and strategy. Instead, I began to regard my participants’ statements as falling on three different scales that were related, but not easily collapsed. A sketch of these characterizations, along scales of commitment, positionality, and focus, can be found in Figure 2.

I wrote continuously throughout my data collection, producing a number of presentations, papers, workshops, and zines. My research has included not just in-depth
interviews, participant observations, and a few scattered email correspondences, but also a series of presentations and pamphlets I created to help the movement. I coached the 350SB 100% Renewable team on their understanding of CCA, presented the emergent CCA as a possible topic for the Blue Horizons film class during the summer of 2018, wrote a zine on CCAs that my media collective now carries, and developed a workshop concerning CCAs, IOUs, DERs, and the wildfires that I hosted at a housing cooperative in Isla Vista. I hope that this work that I have generated has increased public awareness of CCAs, and I know that sharing information has helped me develop my own understanding. I look forward to many more opportunities to share what I’ve learned in more accessible formats than the document now before you. These multiple outputs prompted me to return iteratively to my transcripts, audio files, and field notes until I approached coding saturation.

Figure 2. Participant and Statement Characteristic Scales
B. Literature Review

1. Energy Democracy

Community choice aggregation enables a transformation from a corporate, centrally regulated energy system to one controlled by locally-controlled public agencies. Through such decentralization and democratization, substantive commitments to local renewable generation can be made, with the added possibility of cost-savings. As I have studied the CCA movement in Santa Barbara County, I have found the energy democracy framework most useful in understanding the aims of the movement, elucidating its potential pitfalls, and discerning under what conditions it may succeed. Here, I refer to the energy democracy framework, rather than energy democracy simpliciter, to denote the method of analysis that I use to make sense of the challenges and fissures of the CCA policy and movement. In a word, I am not simply aligning my analysis with the set of tools, goals, and discourses taken up by some of my more radical participants; I am using the energy democracy framework as a set of critiques aimed at challenging the bureaucratized and centralized energy management system in favor of democratized systems capable of speaking to justice concerns and cultivating public participation. These two forms of energy democracy are not disconnected, but it is the latter meaning — as framework for critical renewal — that will be relevant in this literature review. In this literature review, I argue the merits of the energy democracy framework, first by presenting the framework as an important response to energy justice concerns, and then by substantiating some of its claims through reference to other literatures on bureaucracy, democracy, and social ecology.

Before turning to a fuller explication of energy democracy, the problems of the energy system prior to the emergence of CCAs must be explored. While there is only marginal consensus among actors on the problems of California’s existing energy system, a suite of economic, environmental, and justice concerns surfaced regularly in my work. Before the
emergence of CCAs, three IOUs and a smattering of municipal utilities dominated the state’s energy system, thus suspending competition. Renewable standards were set at the state level such that communities had no means by which to take more ambitious strides toward cleaner energy. While these concerns — for competitive pricing and cleaner energy — were the driving force behind CCA policy development, my participants also shared concerns resonant with energy justice scholarship. Energy justice addresses “inequalities in how energy is produced, distributed or consumed” (Partridge et al., 2018), and such inequalities are endemic to California’s existing energy infrastructure. Principally, the existing energy system has privileged large centralized projects far from sites of end use. Thus, energy generated must be inefficiently transmitted over vast distances, leaving geographically isolated areas vulnerable to outages. Meanwhile, centralized generation both diminishes possibilities for local green energy and creates sacrifice zones where energy is produced at massive and noisome scale.

The problems brought to light in energy justice scholarship require more nuanced solutions than demands for cost-savings and cleaner energy. As Dustin Mulvaney demonstrates, renewable energy pursued uncritically could prove disastrous from a justice standpoint. In his work on solar energy, Mulvaney explores how innovations in photovoltaic technology can expose workers to heavy metals like cadmium, and how innovations in supply chains can obscure poor factory conditions and environmental standards (Mulvaney 2013). Because this work is limited to an exploration of energy generation and does not trace renewable energy to extraction of raw materials and manufacture of technologies, Mulvaney’s criticism of land acquisition and centralized production is most relevant here. Mulvaney criticizes those institutional innovations designed to incentivize renewable generation, such as renewable portfolio standards, which have “focused on rapid, large-scale solar deployment, often to the detriment of public participation and stakeholder involvement that could minimize those conflicts [between solar development and ecological
and cultural resources]” (Mulvaney 2013, 232). Without addressing key justice questions of “who wins, who loses, how and why’ as they relate to the existing distribution of energy, who lives with the side effects of its sites of extraction, production, and generation, and who will bear the social costs of decarbonizing energy sources and economies,” strides toward renewable energy will run afoul of justice concerns (Newell and Mulvaney 2013, 133). Solutions to these issues with the existing energy system in California must involve social and organization changes in how energy is produced, distributed, and consumed.

In their work, Noah Healy and John Barry present energy democracy as a method of developing solutions to the energy justice problematique. They make this connection manifest by widening the aperture of the energy injustice problematique to include upstream politico-economic systems that condition and create energy injustice. When questions of how decisions about energy are made, by whom, and for whom, new avenues for fruitfully addressing these problems open up. Healy and Barry emphasize that a “political economy focus produces [...] a more directly political and politicizing framing of energy (in)justice and a just energy transition” (2017, 452). In a word, a politico-economic approach to the energy justice problematique encourages us to find solutions through the repoliticization of energy questions. On the other side, a politico-economic approach also brings much-needed focus on how to build a Just Transition, or a movement away from an extractive economy while centering economic resilience and creating “decent work and quality jobs” (2017, 454). In this way, the energy democracy framework presents a positive project for addressing the energy justice problematique and building economic and environmental resilience.

In recent years, scholars have endeavored to flesh out what energy democracy might look like on the ground as a framework for transformation. Like Healy and Barry, Denise Fairchild and Al Weinrub present energy democracy as a newly emergent movement built to address justice concerns (2017). Fairchild and Weinrub recognize that livable and liberated
worlds require strategies designed to address ecological crisis through upending underlying systems of domination. Here, their struggle is “not simply to decarbonize the economic system, but to transform it” through the realization of a democratic order (2017, 5). In particular, this transformation would require “working people, low-income communities, and communities of color to take control of energy resources to empower their communities” (2017, 6). This shift in literal power “from private hands to a democratically controlled public sector” would constitute energy democracy (2017, 6).

Fairchild and Weinrub seek to invoke three new paradigms that speak directly to the principal issues with the existing energy system as identified by CCA advocates: environmental, social justice, and economic problems. A new environmental paradigm would “reframe energy from being a commodity that is commercially exploited to being a part of the commons” (2017, 8). A new social justice paradigm would emphasize “the importance of building community resilience among the most vulnerable” and “those most negatively impacted by the fossil fuel economy” (2017, 10). To that end, “it stresses equity and the need to redress historical harm in finding solutions that achieve social justice” (2017, 10). Finally, a new economic paradigm “is characterized by community-based development, nonexploitative forms of production, socialized capital, ecological use of natural resources, and sustainable economic relationships” (2017, 10). Democratic management of public goods is a practical requirement of these new paradigms.

Moreover, energy democracy necessitates a decentralized energy model. As the historical review of this project has demonstrated, centralization and regulation by far-away bureaucratic entities has largely benefitted private utilities. Fairchild and Weinrub concur that “in most cases, centralized energy development represents the interests of powerful economic forces aided by a corporate state apparatus unfettered by democratic restraints” (2017, 12). In opposition to centralized models, “the decentralized renewable energy model enables community-based renewable energy development” by allowing for “new economic
and ecologically sound relationships needed to address the current economic and climate crisis” (2017, 13). Renewable technologies have a special place in this plan for decentralization and democratization. Not only does democratic ownership enable the development of safe, sustainable, and equitably distributed energy such as renewables, but renewables are also materially more suited to decentralized, democratic control (2017). Here, distributed energy systems such as “solar energy, wind, geothermal energy, energy conservation, energy efficiency, energy storage, and demand response systems are resources that can be found and developed in all communities” (2017, 13). While decentralized management enables democratic control, renewables materially enable decentralization.

Given the importance of decentralization, and particularly distributed energy systems, as a practical requirement of energy democracy, it is worth clarifying the concept more precisely through the work of Lorenzo Kristov. Kristov has worked with the California Independent System Operator (CAISO), which is regulated by the Federal Energy Regulatory Commission (FERC), and has overseen electricity operations in California since deregulation in 1998. In his work on distributed energy systems, Lorenzo Kristov suggests a model wherein distribution brings not only decentralization, but a reimagining of centers that corresponds with models of ecological hierarchies (2018). His model of distributed energy systems imagines the creation of energy system centers at the level of the building. These building centers are the most local level of consensual interaction wherein subjects can collectively decide such crucial ecological matters as energy and water use, how waste is disposed of, and extremely localized best practices of design. From here, concentric circles of geographically larger systems ripple outward: the block, the neighborhood, the city, the county, the state.

3 For Kristov, these ecological hierarchies are ecological because they resemble biological models of organization, but they are also ecological in that they enable unity in diversity and natural spontaneity, characteristics of ecology explicated by Bookchin (2005) and elucidated further in the
In this model, the building remains at the center of the ecological hierarchy, though larger networks can be mobilized insofar as they have emergent properties that can be used to address more complex needs. In some cases, “concerns facing a city are actually concerns for a broader geographic area and are best addressed through an inter-government collaborative approach” (2018, 5). Kristov’s insight here is essential, as it anticipates the need to look beyond the strictly local and establish governing protocols for those issues that impact watersheds and other important bioregions. But rather than allow concerns for the universalized “other” living just downstream initiate and legitimize paternalistic rule by centralized power structures, regional concerns are approached when and only when they materially assert themselves, and their functions are oriented toward the needs of localized centers. Creating energy systems tailored to localized centers is essential to community resilience. He states, “Resilience is fundamentally a local capacity: no matter how geographically widespread a disruptive event may be, people in each affected locale have to deal with immediate, on-the-ground, possibly life-threatening impacts where they live” (2018, 6). For Kristov, this principle holds for long-term issues like economic resilience as well as immediate issues such as increasingly common natural disasters (2018). Further, local resilience is built on strong community bonds, and as such, active participation in community works by members of communities is the bread and butter of security. In sum, Kristov advocates for building communities from distributed, ecologically reimagined centers that affirm the autonomy of local actors while providing a framework for how to scale-out through coordination, rather than through coercion.

In manifesting an ecological hierarchy wherein the centers are many and everywhere, Kristov uncovers the extent to which the existing energy system disempowers local actors. In the existing system, power is generated at a central location, and its transmission and distribution is managed entirely by massively wealthy utilities and protected by natural

“Social Ecology” section of this literature review.
monopolies. When end-users flip a switch, they are empowered to do so only by the good 
graces of those centers of power — the generation plant, the owners of the grid. Insofar as 
energy systems are managed by centralized state actors and IOUs, citizens are unable to 
directly influence the procurement and distribution of energy, such that important 
questions about our energy systems are removed from the arena of public debate. People 
are incapable of negotiating the terms of their service or advocating for more equitable or 
progressive pricing arrangements. In contrast to Kristov’s ecological hierarchy, the existing 
external system is thus structured as a bureaucratic hierarchy, with power concentrated at 
the top and flowing uni-directionally to the base. The centers of centralized systems are 
always elsewhere in government offices or corporate headquarters, such that functions are 
oriented toward the needs of non-local actors. As such, key questions about how to source 
energy, from where, and for how much are kept out of the public’s hands. 
Phenomenologically, in bureaucratic hierarchies, the center is always elsewhere. 

Kristov’s ecological reimagining of the center offers a chance to make an important 
point about localism. When centers are made local, community members are empowered, 
though not guaranteed, to participate in important decision-making processes. Still, as 
many concerned scholars have recognized, while necessary to democratization, 
decentralization is insufficient on its own in solving issues of oppression within those 
distributed centers. Indeed, the concept of localism can be unnerving because localism can 
sometimes mean othering or repression. Localism might mean liberation for a particular 
geographic region, but it might also legitimate the domination of particular local actors, 
especially those in marginalized communities. This is the case when we fail to understand 
localism as a commitment to a different kind of hierarchy that upends hierarchies of 
domination and affirms liberation at the granularity of the individual. Thinking of 
decentralization as the creation of multiple local hierarchies is an ethical dead end. 
Understanding decentralization as an ecological transformation of hierarchy and a
reimagining of the center as the autonomous individual gets us much closer to manifesting liberatory futures. In short, an ecological center is always here.

The energy democracy framework allows us to understand and critique the centralized hierarchy of our existing energy system, which enables domination and by definition removes power and opportunities for meaningful participation from local actors. Community choice aggregation speaks to this energy democracy approach of reimagining of the center in three important ways. First, CCA devolves decision-making powers from corporate bureaucracies to local governing bodies, thereby decentralizing and relocalizing control. This creates conditions for self-direction, but is still insufficient. Second, it allows the participation of community members and local stakeholders in decisions regarding procurement. Insofar as CCA governing entities are set up in a truly democratic fashion, a question that will be engaged in my subsequent work, they can thus enable democratic engagement of individuals as centers. Finally, community choice aggregation takes as its starting point the notion that democratic, local control over decision-making processes can enable autonomous centers to make substantive commitments to sustainability and resilience that are precluded by bureaucratic decision-making practices, as will be explored in the next sections. In this way, CCAs can pursue novel technologies that allow for decentralized, local renewable generation, such as distributed energy resources (DERs). These technologies, centered by Fairchild and Weinrub, as well as many of my own participants, enable local resilience and local control over energy resources that subvert the bureaucratic hierarchy of the existing macrogrid and assert in its place locally-situated microgrids that can be owned and managed by communities. These are the aspirations toward energy democracy borne within community choice aggregation.

The energy democracy framework manifested by Healy and Barry, Fairchild and Weinrub, and Kristov rests on several claims with rich intellectual traditions that deserve further elucidation. First, the energy democracy framework rests on a critique of existing
bureaucratic systems of governance and management, and so energy democracy framework claims that bureaucratic governance disempowers publics and flattens their demands to basic consumer interests by depoliticizing matters of public concern. Second, the energy democracy framework calls for decentralization, and so we must fully understand the importance of decentralization to democratization and recognize the practical and subjective benefits of the kinds of participation it makes possible. Third, the energy democracy framework relies on a new socio-technics that enables decentralized and participatory democracy, and so we must flesh out how these new ecological socio-technics must be built. The remainder of this literature review will turn to these claims. Finally, I explore under what conditions science and expertise can be mobilized in service of public concerns. The intention here is to distance my argument for energy democracy from naive claims that energy systems may be managed outside of technical expertise while exploring the fruitful connections between science and democracy. In sum, this section articulates the energy democracy framework as an important way to understand CCA as transformational policy that can be used to decentralize, democratize, and repoliticize our energy system, and to grapple with the challenges CCAs face.

2. Bureaucracy and Ecological Modernization

In making a positive argument for democratized and decentralized energy systems capable of speaking to justice concerns and enabling greater participation in public matters, the energy democracy framework levels a critique of the bureaucratic systems of governance and management that characterize the existing energy system. In this way, the energy democracy framework stands on the shoulders of a long intellectual tradition claiming that bureaucratic governance disempowers publics and flattens their demands to basic consumer interests by depoliticizing matters of public concern. In this section, I will begin to address that tradition, assessing, *What are the principal characteristics and*
dysfunctions of the existing energy system, and how does it condition the emergence of ecological modernization-style solutions to energy issues and the environmental problematique?

I first draw from early literature that frames bureaucratic processes such as regulation as a method of domination, common to both state and capital formations, that resolves conflict by depoliticizing contradictions between private and public entities. This depoliticization occurs in particular through corporatist relations, of which regulation is itself an important manifestation, and through the reduction of *homo politicus* to *homo economicus*. I argue that ecological modernization is best understood genealogically as a liberal bureaucratic resolution of contradictions between environmental concerns and capitalism, and that archaeologically ecological modernization is known through policy maneuvers that seek to maintain existing corporatist business relations and flatten individuals as political agents to mere consumers. Such depoliticization and disempowerment is of central concern to the energy democracy framework. I conclude by demonstrating how, despite these machinations, citizens learn to forge alternative strategies to reassert their political agency.

The prevailing California energy system exists at the intersection of centralized corporate and state management. Presently, the principal regulatory body for electrical utilities in California is the California Public Utilities Commission (CPUC), and its jurisdiction spans the state’s three large IOUs: Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E) (Stokes 2015). Despite a weakening of utility dominance in the years following the electricity crisis of 2000-2001, “private utilities remain the dominant actors” in energy policy (Stokes 2015, 115), and IOUs and the CPUC share a history of incestuous relations that have long enabled regulatory capture (Stokes 2015). They are well-resourced, and they still enjoy a privileged place in CPUC proceedings given the history of utility consensus (Stokes 2015). Moreover, CPUC
resembles in certain fundamental ways the IOUs it is designed to regulate: risk averse, slow to change, and generally in favor of centralization. Finally, because of the complexity of modern policy problems, particularly in regard to energy policy, “bureaucrats are increasingly specialized and potentially able to dominate the policy agenda” (Stokes 2015, 68). In many cases, bureaucrats know more about policies than legislators, meaning that “bureaucrats are able to use ambiguities in laws, combined with their autonomy and discretion, to develop rules and institutions in line with their interests” (2015, 68). In a word, the complexity of our energy policy system means that it practically must be governed by bureaucrats, the very class of actors who are most capable of manipulating law and removed from democratic checks. While appointments to the CPUC are made by the California governor and confirmed by the California Senate (Stokes 2015), normal citizens have little interaction with its functioning, and electoral pressures can have only secondary or tertiary effects on its process.

Insofar as the energy democracy framework is concerned with making matters of public concern open to public critique with decentralized and democratic procedures, it stands at odds with the existing bureaucratic structure. Best explicated by Max Weber, bureaucracy is a form of rational domination founded on a consistent system of abstract rules applied to a given jurisdiction and driven by formal rationality ([1922] 2013). Because fundamentally rational domination is rule by law, the staff’s relationship to dominant structures is impersonal, objective, and resilient to the whims of fickle sovereigns. Because individuals are secure only insofar as they maintain control over their sphere of competence, the acquisition of increasingly specialized knowledge becomes paramount ([1922] 2013). There is thus a tendency for bureaucratic structures to become siloed, which in the context of California electricity regulation manifests as a “regulatory maze” of slow and uncoordinated commissions and boards (Jung 2017, 20). From here, bureaucracies also generate their own hierarchies based on claims to specialized knowledge, and uninitiated individuals become
dependent on those actors who possess greater knowledge and who can create, interpret, and enact law. The resultant form of domination is marked by hierarchy and relationships of dependence.

Bureaucracy’s most important dysfunction vis-à-vis the energy democracy framework is how it enables the depoliticization of matters of public concern in favor of capital. Bureaucracy accomplishes this feat by becoming critical to the function of both capital and the state (Weber [1922] 2013), then by entwining the two. In The Civil War in France, his eulogy for the Paris Commune, Marx argues that in France the modern state grew to serve the bourgeoisie in overcoming feudalism and absolute monarchy during the French Revolution ([1871] 2000). At this transformative moment, “the state power assumed more and more the character of the national power of capital over labor, of a public force organized for social enslavement, of an engine of class despotism” ([1871] 2000, 584-858). Here, the state served as an important mechanism for capital to enact exploitation against the people. More specifically, state and capital became newly entwined on an administrative level, and new bureaucracies were developed to aid the growth of markets abroad. Like Marx, Jürgen Habermas recognizes that market exchange required “strong political guarantees” secured through military actions and government taxation (1962, 17). Here, bureaucracies were fundamentally tasked with raising taxes to abet the growth of capital. This task required greater centralization of that administrative apparatus, and so “local administrations were brought under the control of the state” (1962, 18). Habermas thus explains that state functions were bureaucratized and centralized to aggrandize capital.

As a mechanism for state and capital collusion, historian Ishay Landa argues that bureaucracy was then mobilized to crush claims for democracy by managing new contradictions between political and economic manifestations of liberalism (2009). Political liberalism concerns democracy, freedom, and equality, while economic liberalism is the ideological underpinning of capitalism (2009). At its start, political liberalism was essential
to the rise of capitalism because it asserted parliamentarianism against monarchism, or law against order (2009). However, insofar as those arguing for popular representation might want to ensure material security or rights in the workplace, for example, political liberalism contradicts absolute economic liberalism. From here, Landa argues that “In order to defend the liberal socioeconomic order from democracy and/or revolution, the bourgeoisie was thus driven to demote — to a lesser or greater extent — political liberalism” (Landa 2009, 37). This contradiction between two dueling notions of liberalism is resolved by placing capitalism beyond the reach of political intervention (Landa 2009). This feat is accomplished structurally through bureaucracy.

It is useful to put Landa’s analysis of political and economic liberalism in conversation with Weber’s characterization of bureaucracy. Political liberalism is attuned to democratic demands, while economic liberalism operates on bureaucratic logic, which for Weber is oriented toward procedural or formal rationality over substantive justice ([1922] 2013). Methods, processes, and abstract laws applied universally are the focus here, and “[b]ureaucracy develops the more perfectly, the more it is ‘dehumanized,’ the more completely it succeeds in eliminating from official business love, hatred, and all purely personal, irrational, and emotional elements which escape calculation” ([1922] 2013, 975). Here, such calculation “means a discharge of business according to calculable rules and ‘without regard for persons’” ([1922] 2013, 975). This logic is fundamentally at odds with substantive justice, which is necessarily ethically rather than formally derived ([1922] 2013). In this way, bureaucracy resolves the contradiction between political liberalism and economic liberalism in favor of abstract laws and, effectively, capitalism. And as a system of governance, the essence of liberalism is not democracy, but bureaucracy.

Still, the system of abstract rules characteristic of bureaucracy does not map perfectly onto existing energy systems, which are often managed by what Claus Offe might call “neocorporatist arrangements” between private and public sector representatives (1984,
In neocorporatist arrangements, negotiation processes are carried out incestuously by state and capital, or public and private, entities; because these processes are incestuous and informal, “there is every reason for the participants to keep their delicate exchange of proposals, information and threats as remote as possible both from the general public eye and from the segmental constituencies which participants represent” (1984, 167). Decisions are made behind closed doors, by “selectively screening out certain potential societal demands” (1984, 29). Here, matters of substantive justice are resolved through technocratic management and concerns cannot be articulated by the public. Where bureaucracy is formal rule by a system of offices inclined toward centralization, technocracy is rule by technicians, whether formal or informal, such as in corporatist or neocorporatist arrangements. This technocratization and depoliticization is done in part by involving scientists, who “serve the function of rejecting potential claims of ‘non-experts’ to be heard” (1984, 168). For Offe, this is precisely the objective, and it is a political calculation: “by replacing democratic procedures of consensus building by such other methods of conflict resolution, government elites avoid the ‘official’ institutions of politics in a constant search for non-political forms of decision-making” (168). Here, matters of public concern are best handled behind closed doors by regulators and technocrats. In this way, while neocorporatism is not identical to bureaucracy, the former emerges from the incestuous relations of the latter, and deepens its most fundamental flaw: the depoliticization of the public. Just as monopoly capitalism betrays some of the formal dicta of capitalism, but is a logical maturation of it, neocorporatism marks a divergence from ideal bureaucracy, but is its consequential rot.

Thus far, I have focused on depoliticization as accomplished structurally by bureaucracy and technocracy; next, I will demonstrate how depoliticization is performed ideologically by flattening homo politicus to homo economicus. As bureaucratic and technocratic structures

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This suggestion will be complicated in the “Science and Expertise” section of the literature review.
come to resolve contradictions between political and economic liberalism, analogous resolutions emerge on the level of human subjectivity as subjects are flattened into simple consumers, here *homo economicus*. While matters of human subjectivity are not yet central to the energy democracy framework, these insights are latent. Returning to an earlier point, Habermas contends that this flattening is built into the rise of capitalism. With capitalism, economics becomes detached from landholdings and thus the court, and as such, political governance became autonomous from what Marx might call social reproduction. At the same time that privatization of the economy meant that “each family’s individual economy had become the center of its existence,” while economic activity was based on a commodity market that relied on public, i.e. government, action such as conquest and taxation (Habermas 1962, 19). The crucial point here is that the only way that common people could understand themselves as a public was through common economic need, and the scope of their public-facing decisions became ultimately restricted to the economic. The result for Habermas is the rise of “civil society”: a public formation that is alienated from government itself and fundamentally economic in character.

Throughout these transformations, important developments occurred on the level of human subjectivity. First, the new relationship between civil society and government signaled the demise of *homo politico* and ascension of *homo economicus*. While individuals may make claims on the public sphere of political governance, and they may use the rational-critical capacity of the press to argue for rights (especially to possessions), they are fundamentally alienated from the sphere of governance itself. Moreover, a false unity emerges in the public sphere from its two diverse parts: the private person, their family, their spirit and psychology on the one hand, and their property on the other (Habermas 1962). Here, the bourgeois subject is a pretended universal riven with particular economic interest. Nowhere is this development more striking than John Locke’s dedication to “life, liberty, and property,” presented as a tightly-bundled set of concerns, or his
characterization of “life, liberty, and estate under the title of ‘possessions’” (Habermas 1962, 56). On an ideological level, the form of liberal thought epitomized by Locke and explored by Habermas ends up both structuring personhood around access to possessions and rendering private property sacred (Landa 2009). At the same time, *homo economicus* imbues wealthy citizens with greater political power and enables greater political domination of the economically disempowered. In this way, depoliticization through economic liberalism is a political assertion.

As the economic and the political actor are flattened into one, concerns of economic and social justice come to the fore and become particularly relevant to the energy democracy framework. Economic rights to private property are elevated to the status of political rights that must be protected by governments. Of course, because in keeping with economic liberalism these economic rights are rooted in capitalism and the formal liberty of open markets, economic rights to private property have nothing to do with actual material security, and thus these economic rights remain *particular*. In this way, the contradiction between political and economic liberalism is resolved in favor or economic liberalism ideologically by making property rights sacred.

From this analysis, I have charted the emergence of bureaucratic, technocratic, and corporatist management practices and the flattening of *homo politicus* into *homo economicus*. Both strands are important in understanding the genealogy of ecological modernization, the dominant form of technocratic management relevant to the contemporary environmental problematique. In this work, I use eco-modernism as a term to denote on-the-ground practices, discourses, and constraints of what is known in scholarly work as ecological modernization. Like the relationship between the energy democracy framework and energy democracy *simpliciter*, ecological modernization informs eco-modernism, but has a more scholarly or theoretical orientation. Participants with inclinations toward eco-modernism may not be dedicated to or aware of ecological
modernization, but ecological modernization as a framework may be used to make sense of their practices and discourses. Further, ecological modernization has little salience in the United States in theory, but through my work in Santa Barbara, I find that eco-modernism is robust in practice.

Ecological modernization suggests the resolution of environmental concerns through “institutional reform within modern society” (Spaargaren and Mol 1992, 323). Ecological modernization recognizes the institutional foundations of contemporary environmental concerns — in particular the industrial degradation of the sustenance base — and from there assume that “looking for the institutional traits that cause environmental problems also means investigating possible solutions to those problems via institutional reform” (emphasis mine; 1992, 327). Especially as presented by Joseph Huber, though ecological modernization critiques industrialization, solutions that depart from modernity, as defined as capitalistic and bureaucratic, are not entertained (1992, 336). This narrowness of scope is not a problem of oversight. Rather, for ecological modernization theorists, modernization actually delivers solutions to environmental concerns, including “the development, inauguration, and diffusion of new technologies that are more intelligent than the older ones and that benefit the environment,” or the possibility of “economizing ecology by placing an economic value on the third force of production: nature” (1992, 335). Spaargaren and Mol present an updated theory of ecological modernization that endeavors to mobilize state institutions to correct market forces of production and consumption, with important arguments in favor of understanding nature as part of everyday life (1992, 338). With these adjustments, ecological modernization focuses still more explicitly on using powerful bureaucratic institutions of the state to technocratically manage environmental concerns.

The solutions to environmental concerns proposed by ecological modernization reside entirely within existing modern, institutional frameworks. For Richard York and Eugene Rosa, ecological modernization depends on “self-referential mechanisms” with “the
potential of attaining sustainability from within — a greening of business as usual — thereby avoiding such challenging alternatives as radical structural or value changes in society” (2003, 274). For Maarten Hajer, these self-referential mechanisms are precisely the point: institutional reforms keep the institutions running (1995). Like York and Rosa, Hajer also understands ecological modernization as a discourse that “recognizes the structural character of the environmental problematique but none the less assumes that existing political, economic, and social institutions can internalize the care for the environment” (1995, 25). Further, by merging science and finance, ecological modernization casts environmental protection as a positive-sum game by merging money and environment (1995). Environmental issues are thus depoliticized, and environmental protection becomes a management issue capable of resolution by experts. The defining feature of ecological modernization is \textit{business-as-usual}, favoring just enough institutional management to keep essentially free market systems working.

The problem with ecological modernization is much like the problem with using bureaucratic and corporatist management styles that depoliticize conflicts in other spheres. By relegating environmental problems to experts — scientists and technocrats — it disempowers publics and effectively precludes any normative discussion of environmental problems and solutions. For more on this, we can turn to the work of James Scott (1998). While Scott does not explicitly take up the issue of ecological modernization, he presents the same fundamental problem: modern definitions of environmental problems are both produced by and (seen to be best) addressed through technocratic, expert-directed bodies. For Scott, bureaucratized management of the environment — here through German scientific forestry — advances with its commodification and its strategic importance vis-a-vis the state (1998). As new modern systems for understanding the environment work to strip down and simplify that environment, once-complex ecosystems face ruin (1998). Scott’s ultimate point is that German scientific forestry failed because it rends ecological
relationships. Its gaze is ultimately cycloptic, and in attempt to see all, it actually un-sees those webs of interaction required for a functioning ecosystem.

While Scott’s account of technocratic environmental management ties in well with the *longue durée* of bureaucratization explicated here, Hajer remains more concerned with understanding ecological modernization less as a coherent worldview and more as a loose discursive bundle of radically distinct convergent ideas brought together through argumentation (1995). I argue that these understandings of ecological modernization are not necessarily at odds. Rather, Scott’s account provides a genealogy of ecological modernization, while Hajer gives us a good sense of what ecological modernization looks like as we find it in the world — that is to say, archaeologically. Hajer’s definition of ecological modernization thus converges with its on-the-ground manifestation I term eco-modernism. Here, eco-modernism is a patchwork monster that satisfies a host of demands in markedly corporatist fashion and allows institutions to be mobilized to make the playing field work for capital. First, it provides governments plausible alternative solutions to environmental problems that the remedial solutions of the past failed to resolve (1995). Second, it allows businesses to stay solvent while paying lip service to environmental demands (1995). Here, maintaining existing business interests is paramount. Third, it deflects social contradictions associated with modernity by giving space to the idea that consumers need not sacrifice their amenities (1995). This feature speaks precisely to the demands of *homo economicus* explored above. Fourth, it steals the thunder from the Left of the environmental movement of the 1970s (1995). Control over environment problem framing and possible solutions arise through a *longue durée* of entangled emergence between state and capital, thus government bureaucracy and capitalist commodification — and increasingly complex, standardized, and abstract technologies of knowledge production — drive decision-making processes and condition possible discourses. Bureaucratic governance in contemporary times ushers up ecological modernization-style solutions to
environmental concerns while leaving important concerns of the energy democracy framework — especially normative commitments to justice and political participation — unresolved.

We can know eco-modernism on the ground as solutions to environmental problems that maintain existing business interests and flatten citizens to simple consumers. An understanding of eco-modernism through ecological modernization is essential in grappling with contemporary electricity regulation in California. Especially with policies such as community choice aggregation, policy solutions are framed as a means to achieve environmental ends while remaining committed to free market ideologies of choice, which serve to protect existing business interests and appease all actors at the table. In this section, I have endeavored to place these eco-modernist commitments in the context of the long history of bureaucratization that depoliticizes matters of public concern and flattens citizens to consumers, and thus robbing them of political agency. In the body of this work, I will show how commitments to eco-modernist tactics of management become so many fetters on aspirations toward energy democracy and the substantive commitments to local resilience and environmental sustainability to be won therein.

Energy democracy is opposed to ecological modernization in several important ways. First, with eco-modernist solutions state and capital interests endeavor to maintain existing business interests, often through the maintenance of regulatory and corporatist relations. Energy democracy is oriented instead toward a critique of prevailing state and capital powers and seeks to replace them with democratic and local alternatives. Second, where eco-modernism protects and privileges the citizen qua consumer while evacuating movements of their oppositional edge, energy democracy seeks to cultivate political efficacy within communities and community members by creating new structures whereby people can advocate for their complex set of interests. The conflict between energy democracy and eco-modernism are of particular importance to the study of community choice aggregation,
since CCA contains both energy democracy aspirations and eco-modernist policy constraints that jeopardize the program’s radical potential.

3. Participatory Governance

In California, the CCA movement has the potential to mount another kind of resistance against far-off bureaucracy, and the depoliticization of matters of public concern, by enabling participation in questions of production, distribution, and consumption of energy. Modesty is necessary here, as CCA still submits to the CPUC, and the kinds of governing structures implemented by CCAs might prove to be just as byzantine and bureaucratic as the current arrangement. At the same time, CCAs are an important opportunity for communities to restructure how they engage with some of the most important public decisions that are being made in this time of ecological collapse. Reading Habermas now, it is painful to think about that rational-critical moment that existed with political liberalism, briefly, at the birth of civil society. We saw the light, just as the door was shut and political liberalism was overwhelmed by its economic consort. Now, another such door is opening. What will we make of this moment?

The previous section demonstrated the principal dysfunctions with bureaucratic governance and traced the connections between bureaucracy and ecological modernization while showing how these critiques are relevant to an energy democracy framework. Next, this literature review will substantiate the second claim crucial to an energy democracy framework: that participation is good, practically and intrinsically, and that decentralization is crucial to cultivating democratic participation. Here, democracy is understood not as going to the polls, rule by majority, electing representatives, but as governance by and for the people, with essential commitments to equality and consensus (Woodruff 2006). In this section, I will address, What are the practical and subjective benefits of participation, as hindered by bureaucratization, and how does decentralization
enable democratic participation? To explore this issue further, the literature review will turn to the work of Paul Goodman and Richard Flacks. Here, participatory models of governance are necessary normatively and strategically, and the everyday becomes the center of oppositional and liberatory political reassertion. Further, decentralized politics becomes necessary for participatory models of governance, as demonstrated throughout black liberationist, black feminist, and black ecofeminist work.

Paul Goodman emphasizes decentralized politics as a requirement for social experimentation and individual subjective development (1965). Like Habermas, Offe, and Scott, Goodman begins his work People or Personnel? by arguing that trends toward centralization and bureaucratization has caused a general sense of powerlessness in mid-century America: “In the political spectrum from the Left to Right, all shades share the belief in top-down management” (1965, 28). While conservatives leave public matters up to corporations, liberals put their faith in government bureaucracies (1965). Rights are secured, while freedoms are eschewed, and problem definitions and solutions are managed by centralized organizations.

Goodman’s next move is to trace the emergence of this contemporary state of powerlessness through American history with an eye toward junctures where things might not have turned out this way. He brings attention to how the American Revolution was preceded by an era marked by “community-anarchy” where matters of public concern were determined by bodies “in frequent personal contact with those who initiated and decided” (1965, 32). These small government formations were decentralized and participatory. Such models benefitted the free development of those communities in two important ways. First, because each community was able to manage itself, there was the possibility for social experimentation. Goodman quotes James Madison on this point, who wrote, “each autonomous unit can experiment; if the experiment fails, only a small community is hurt, and the others can help out; if the experiment succeeds, it can be imitated to everybody’s
advantage” (1965, 34). Community self-determination opens the possibility that such social experiments can be pursued. Second, communities might welcome the advice of experts, and those experts might be more honest in their assessments (1965). This point might have particular relevance to the matter of CCAs, where communities will still need expert opinions in these matters. But here experts could be liberated from bureaucratic structures, and their employment and status might not be connected to managing problems within a narrow scope of conflict articulation. In a word, free-floating experts might make more honest calls, and people might be more inclined to listen.

Here, Goodman also develops creative individualism as his chief normative concern, which for him is assailed in every facet of twentieth century political life as we are subordinated to massive administrative bodies. While he does not invoke *homo politicus* and *homo economicus*, Goodman points to a similar distinction between people and personnel, or between the kind of subjectivity that develops, on the one hand, when people are able to participate in the political structuring of their lives and, on the other, when that possibility is stripped from them. Describing life in community-anarchy, Goodman writes, “Historical conditions were *for* men to act in, and men *could* act” (1965, 35). This point fits well within Hegelian and Marxist conceptions of subjectivity (Marx [1844] 2000; Hegel [1807] 1977). For Marx as Hegelian, active engagement and interaction with the world — in a word, *work* — entails the transformation of the subject and the ongoing emergence of their subjectivity (Dunayevskaya 1958). Goodman thus brings humanism into his analysis of participatory governance.

Participatory governance promotes the creative expression of individualism through collective work, and the loss of selfhood through bureaucracy lies at the heart of Goodman’s critique of centralization. Centralization and bureaucractization, working in tandem in the history of the California energy system, rend people’s ability to shape their own political futures. What has been forestalled is a richer sense of individualism. Now, to achieve this
creative individualism, people must break from conventional social life. Looking to
American intellectual traditions for inspiration, Goodman argues that Transcendentalism
and Populism both recognize how contemporary political forms do not permit creative
expression of individualism, and so they seek to break from these forms, either through
deeper cultivation of self or through oppositional politics.

For Goodman, once people are taken out of the process of governance, once the
community meetinghouse is no longer the site of their subjective development, the people
effectively lose the reins of history: “Trapped in a system, people carry on functions often
fraught with colossal or catastrophic consequences without being personally engaged in the
functions at all” (1965, 76). The transformation from agential democratic citizens to simple
cogs in an administrative apparatus is the denaturation of people to personnel (1965, 76).
For Goodman, the best means for refashioning ourselves as actors is by seizing action in the
everyday. He writes, “In my opinion, precisely the simpler matters — housing, shopping,
being informed, and making a living — are the most important matters, and I set a high
value on democratic initiative and deciding” (1965, 155). For Goodman, the everyday must
be the site of self-actualization and the reclamation of participatory politics.

In his work *Making History: The American Left and the American Mind*, Flacks argues
that the project of reclaiming *homo politicus* must take the everyday as a starting point for
transformative change (1988). First, political engagement through the standard channels of
representative government is a nonstarter for many Americans, as the process is often
alienating (1988). Moreover, like Offe, Flacks recognizes that for most Americans, politics is
not the dominant arena of conflict articulation, nor is it a necessary part of the American
conception of freedom (1988). Here, it is a commitment to everyday life — that zenith of
American liberty — that grounds popular historical intervention (1988). Flacks describes
two broad categories of popular historical intervention that proceed from the everyday:
resistance and liberation. Resistance manifests against perceived threats to everyday life,
such as against enclosures and foreclosures, wage cuts and plant closings, commodity shortages and evictions, police crackdowns and toxic spills (1988). In contrast, liberation movements emerge not out of a desire to protect everyday life, but aspirationally to establish a new kind of everyday by claiming and achieving rights not now provided (1988). Each kind of movement encounters an important paradox: resistance requires that actors defer everyday life in its defense, while liberation requires “daily assertiveness” to achieve the extraordinary (1988, 82).

Both resistance and liberation movements cultivate actors’ political consciousness by making them aware “that the gap between history making and the everyday can be closed” (1988, 86). For Flacks, this is paramount to democracy, the essence of which is nothing short of “a social arrangement in which the gap between history and everyday life is permanently closed” (1988, 87). Closing this gap occurs when people recognize the power of insurrectionary politics and claim the ability to make history “in and through their everyday lives” (1988, 87). Flacks’s argument is paradoxical in that “commitment to everyday life’ is the basis not only of political withdrawal but of mass political participation as well” (1988, 90). This move is profound because it both acknowledges the concerns of Frankfurt School theorists who bemoan the narcissism and one-dimensionality of private consumer life while salvaging the ideal of liberty as a legitimate political currency as we consider political participation.

An affirmation of *homo politicus* necessitates a focus on everyday matters, but it also necessitates decentralization and localism. A program of localism would require the power to set problem definitions and solutions be devolved on localities, effectively keeping centralized bureaucracies off our backs in setting the parameters of social change (1988). In this way, like Goodman, Flacks advocates “a politics of decentralization” (1988, 266). Here, “the appropriate goal is to build a politics that seeks, over time, to return historical initiative to self-organized communities” (1988, 266). Rather than competing for national elites for
control over history, or seeing history “controlled by elites whose actions are checked only by desperate assemblies of people in the streets,” history-making is moved to the everyday (1988, 266). What Flacks calls for here is not some kind of clamoring for recognition from far-away and high-up powers, but a fundamental reconfiguration of the political such that local, particular actors are actually in positions of political decision-making. In this way, Flacks’s work lays the theoretical foundations for the kind of ecological re-centering advocated by energy democracy framework scholar Lorenzo Kristov: power structures are not just distributed but upended and overturned.

In his work, Goodman works to draw out and affirm those moments in history when decentralization and participation were achingly available, urging us to look to the neglected counter-movements, to the powerful who crumbled, to those who seem to have dropped out of history. The heroes of the Russian Revolution were not Bolsheviks, but “peasants, guerrillas, and mutinous sailors”; the Spanish Civil War was made by “peasants and miners, but it was stopped by liberals, communists, and fascists”; provincial towns organized society when freed from Paris after the French Revolution; the Articles of Confederation need not have been followed by the Constitution (1965, 151). The crucial point is, things must not have been this way. By affording our pasts a kind of conscious determination, we often trim the wild frays of our pasts so that all strands braid neatly into our present moment. But by imbuing history with such inevitability, we lose the sense of what other paths may have yielded. There have been times in our past when we were able to cultivate participatory models of governance, when we could be powerful as citizens, and we could have followed those paths further. Trapped as we are in bureaucratic thinking, surrounded by bigness and stripped of our power, Goodman acknowledges the difficulty of imagining life without administration. Here, Goodman anticipates Thatcher’s phrase, “There is no alternative.” But he also calls back Marx with the line that will remind any Marxist of the *Economic and Philosophical Manuscripts*: “For us, it is only after we have
gotten out of the interlocking system that we will be able to see how much of it is unnecessary” (1965, 154). Before we can become independent, we need to be able to imagine ourselves standing on our own two feet.

For those on the Left, “there is no alternative” has taken a novel form in the rejection of certain participatory movements, especially those that adopt exodus as a tactic of creating the conditions for participatory governance, as petit bourgeois or exclusively white and middle class. While Goodman writes largely to a white middle class audience as a rhetorical strategy to bring anarchist ideas to centrists and conservatives, his work also highlights the importance of decentralization and localism to marginalized communities. In Goodman’s work, the safety of black communities of the Jim Crow American South becomes an argument for local control. Against the clamor of praise for Eisenhower’s heroism in Little Rock, Goodman argues that the charity of centralized powers did not create stability or democracy in the South — only local control of black communities by black communities could achieve that: “If each locality indeed had its option, the counties where Negroes are in the majority would have very different rules! And they would provide a meaningful choice for other Negroes to move to” (1965, 13). Insofar as marginalized communities strive to carve out sites where they can practice autonomy through participatory governance, they are often attacked by hegemonic, centralized forces, as has been witnessed in tragic events ranging from the destruction of Rosewood, Florida, Black Wall Street, and the headquarters of MOVE in Philadelphia. Other exodus movements such as the Kurdish independence movement in Rojava and the EZLN in Chiapas assert participatory self-governance and models of democratic confederalism (Öcalan 2007) and autonomous municipalism inspired by indigenous and anarchist tactics of exodus and localism (Marcos 2006).

The concept that self-governance is essential to the development of self-consciousness, particularly for marginalized communities, is perhaps nowhere more prominent than in post-colonial black liberation literature and contemporary movements for the creation of
safe spaces for women and queer folx. Frantz Fanon, whose work has been immeasurably important to the field of black radicalism, black separatism, post-colonialism, and African socialist humanism, argues against the universalizing humanism characteristic of some European socialisms and instead advocates that particularism and national self-determination must precede universal humanism (1963). Recognizing that a history of brutal oppression of the African continent and the imposition of a global color line cannot be waved away in a flash of goodwill, Fanon argues that one cannot "skip the national period," that of "national consciousness" (1963, 179). Instead, “[t]he consciousness of self is not the closing of a door to communication. Philosophic thought teaches us, on the contrary, that it is its guarantee. National consciousness, which is not nationalism, is the only thing that will give us an international dimension.” (1963, 179). In a word, self-consciousness must be developed on its own terms if the people are to meaningfully govern themselves and engage genuinely with broader human struggles.

A similar point is made by Patricia Hill Collins, who argues that “emancipatory social movements have invoked the language of community as a powerful tool to challenge social inequalities” (Collins 2009, 10). Moreover, spaces of community — ranging from kitchens to Black churches to freedom schools — are not apolitical, but “may lie at the heart of politics itself” and “constitute sites of political engagement and contestation” (Collins 2009, 10, 12). In a word, communities are an important organizing principle, especially for marginalized groups. This point is perhaps nowhere more clear than in the conception of the “safe space,” which is essentially a zone where marginalized peoples, especially people of color, women, and queer folx, can find refuge so that they may develop their self-consciousness and affirm their capacity for self-emancipation. Safe spaces, “represent places where black women could freely examine issues that concern us...[and] constitute one mechanism among many designed to foster Black women’s empowerment and enhance our ability to participate in social justice projects” (Collins 1990, 110). Safe spaces, home to “relatively safe discourse” is
“a necessary condition for Black women’s resistance” insofar as “they form prime locations for resisting objectification as the Other” (Collins, 1990, 101). Here, finding spaces of exodus for the development of self-consciousness actually combats othering as it occurs in hegemonic, dominant spaces. Crucially, “as strategies, safe spaces rely on exclusionary practices, but their overall purpose most certainly aims for a more inclusionary, just society” (Collins 1990 110). Here again, autonomy is essential for the development of liberated self-consciousness.

Exodus movements that creates sites for meaningful participation speak to a broad set of problems that marginalized communities have been forced to confront creatively by fashioning local alternatives. In her work on women’s black community farms in Detroit, Monica White brings ecofeminism into conversation with the literature on safe spaces and demonstrates the importance of participatory, interactive spaces to resilience and self-determination in the context of food security (2011). Here, gardening becomes a “strategy of resistance, one that demonstrates self-determination and political agency” (2011, 19). Autonomous community control over food sources ensures greater food security, especially for marginalized peoples. What’s more, ecological interactions with the rest of the biotic community of the earth becomes “an ally in the struggle for liberation because it provides a living learning space and refuge for communities that experience racial and economic apartheid” (2011, 19). This ecofeminist insight will become even more important as the conversation regarding participatory self-governance is brought to bear on people’s interaction with ecology, discussed more fully in the next section.

This section has demonstrated the importance of participatory repoliticization and democratization through decentralization as both a practical strategy for enabling social experimentation and as essential for human subjective development. I have also shown how participation and decentralization can address problems of hierarchy, oppression, and othering, against the common assertion that localism facilitates domination. This
conversation is critical to a fuller appreciation of the energy democracy framework, which rests on the claim that participation is good, strategically and intrinsically, and which emphasizes decentralized technological and social-organizational transformations as a pathway toward more just futures.

4. Social Ecology

As we attend to the construction, in theory and in practice, of participatory organizations and communities, it is important to consider how to prevent these new social entities from becoming parodies of the centralized, bureaucratic systems that they are designed to subvert. This section asks, What are some of the principles that can guide the development of decentralized and participatory democratic organizations? To address this question, the literature review turns to social ecology, with a particular emphasis on Murray Bookchin, and argues that ecological principles of “unity in diversity” and “natural spontaneity” may be useful in constructing a libertarian technic, or a new social organization that is not founded on domination, that enables human flourishing, and that is organized around participatory consociation between human and non-human worlds. Bookchin’s work has important resonances with ecofeminism, such as that which inspired Monica White’s work on urban gardening. From this vantage point, we can move from critiques of prevailing energy systems to considering how, and with what values, new systems can be asserted. Here, Robert Thayer, Jr.’s discussion of bioregionally-distributed and publicly-owned utilities anticipates community choice aggregation. Here, social ecology can deepen our understanding of the energy democracy framework and further sharpen our critique of bureaucracy.

Social ecology begins as a method of analyzing ecological crisis and becomes a project to discover more ecological models of social organization. Here, ecology is understood in Ernst Haeckel’s meaning, as communicated by Bookchin, as the study of complex interactions
between organic and inorganic entities (2004). Social ecology hopes to explain social and environmental crises in terms of ecological ruptures (Eiglad 2015). Rather than claiming that the ecological crisis is purely a matter of greenhouse gas emissions, or even simply a logical manifestation of capitalism, Bookchin understands ecological crisis as the result of a ruinous attempt by hierarchical human systems to gain mastery over nature for management and extraction. As humans commodify and order nature to their will, “the sovereignty of nature” cracks back and instructs that hierarchy cannot be had without consequence (2004, 21). It is from here that ecology gains its “critical edge”: the realization that environmental problems are ecological problems, having to do with ailing webs of interaction, demonstrates that ecological solutions must be found in the reorganization of the social world. Bookchin’s principal contribution to social ecology is his argument that hierarchy is anti-ecological; his principal aim is to understand the social from an ecological perspective and thus arrive at practicable solutions to ecological crises.

Toward manifesting such solutions, Bookchin argues that social ecological reorganization rests on the principles of unity of diversity, which speaks to social freedom, and natural spontaneity, oriented toward autonomous self-direction. These principles, which speak to two forms of freedom, will be taken up in turn. Bookchin borrows Hegel’s phrase “unity of diversity” to describe ecosystems wherein “living things are interdependent and play complementary roles in perpetuating the stability of the natural order” (2005, 69). These unities are not totalitarian or functionalist, as in Durkheimian organicism, nor do they become the “spectral ‘oneness’ that yields cosmic dissolution in a structureless nirvana” (2005, 87). Instead, these unities are oriented toward transformation, which occurs through interactions within an ecosystem. As diverse actors within unified ecosystems interact, those ecosystems develop “through highly complex phases of evolution,” making and remaking their subjectivity (2005, 86). Interaction between complex and diverse entities is crucial not only for the development and transformation of
living things in ecological relations, but is also essential for the stability or resilience of an ecosystem. First, diversity enables mutualistic relations that stabilize ecosystems. Next, complexity makes for robust ecosystems that are resistance to shifts in population (2005, 91). Stable, resilient ecological and social systems rely on diversity and interaction. In this way, ecology “decisively challenges the very function of hierarchy as a stabilizing or ordering principle,” asserting horizontal interactions in its place (2005, 102).

Natural spontaneity, which forms another ecological tenet, necessitates and speaks to autonomy and self-direction (2005, 89). Interaction within an ecosystem requires rich articulation of its diverse parts, and it drives toward increasing complexity (2005, 87). Diversity is both an output of ecological interaction and its requirement. Autonomy is a necessary prerequisite to diversity, since entities must be free to develop in those ways they see fit to change and become different. Though somewhat anthropomorphized language is used here, consider a non-human case and the same truth emerges. Imperfect genetic transmission from parent to offspring provides the building blocks for natural selection. And while natural selection is sometimes understood as a harsh discipliner of aberrant mutations, what lives and what dies is shaped by natural anarchy as well as by fitness. For Bookchin, this spontaneous and self-directed change is the only legitimate form of change, for otherwise coercion becomes the motor of transformation. Bookchin warns, for example, that “where forced social changes were not nourished by an educated and informed popular consciousness, they were eventually enforced by terror” (2005, 101). This critique of coercion is crucial to the conversation regarding community choice aggregation, which shifts power away from centralized regulators. Centralized regulation at the level of the state is necessarily coercive, even when we agree with its substance. Sometimes local actors might concur with the commands of centralized authorities, but this convergence will only ever be incidental to the machinations of centralized power.
Creating social and ecological systems that cultivate interaction through *unity of diversity* and differentiation through *natural spontaneity* demands a revolutionary social transformation of *technics*. Technics is simply applied knowledge that in turn shapes the knower, and can be more or less libertarian, more or less authoritarian. The significant concern of technics is “its ties with the ideals and social structures of freedom” (2005, 326). In a word, how do our technologies of social organization make or unmake our (social and autonomous) freedom? Authoritarian systems bear an “*institutional* technics” characterized by “the effectiveness with which those technics reduced their animate subjects, their vast armies of peasants and slaves, to utterly inanimate objects” (2005, 327). Here Bookchin speaks to the *longue durée* of priestly corporations, bureaucracies, monarchies, militaries, and public works comprised of coordinated labor: the “megamachine” (2005, 327). Because they are essentially hierarchical, institutional technics are incapable of manifesting ecological interactions. Thus, technological fixes to ecological problems that do not at once transform social structures fail to meaningfully address the basic ecological problematique: domination. On this point, Bookchin devastates programs that we might now regard as eco-modernist: “An environmentalistic technocracy is hierarchy draped in green garments; hence it is all the more insidious because it is camouflaged in the color of ecology” (2005, 409). Elsewhere he writes, “Like flowers in a dreary wasteland, they will provide the colors and scents that obscure a clear and honest vision of the ugliness around us, the putrescent regression to an increasingly elemental and inorganic world that will no longer be habitable for complex forms of life and ecological ensembles” (2005, 355). The purpose of our technologies cannot be to mask fundamental problems of domination.

Against these institutional technics, which should remind the reader of Spaargarden and Mol’s insistence on institutional reforms as a salve for environmental concerns, Bookchin champions *libertarian* technics. Achieving a libertarian technics would necessitate “a radical inversion of all social and productive relationships” and its
reconstitution along ecological lines (2005, 329). They must be crafted according to “the social ends that they are meant to serve, the ethics and sensibilities by which they are guided and integrated, and the institutional challenges and changes they involve” (2005, 409). In this sense, the revolutionary promise of libertarian technics is nothing short of the richly articulated interaction of ecological communities, teeming with active substance seeking and affirming subjectivity (2005, 354). Libertarian technics allow us “to be organisms,” “integrated to create highly interactive, animate and inanimate constellation in which every component forms a supportive part of the whole” (2005, 354). In a practical sense, libertarian technics entail technologies that remain close to local ecosystems, are concrete (2005, 402), and affirm the integrity of the human community (2005, 347). Moreover, these libertarian technics emphasize principles of participatory governance championed by Goodman and Flacks.

As Bookchin begins to construct a positive vision of libertarian technics, he foregrounds the need for consociation against hierarchy built on “cooperation, mutual support, and love” that is biologically constituted (2005, 413). To put a finer point on it, we need each other to survive. We are social creatures, and we are able to seize our development as individuals only insofar as we engage interactively, ecologically, and with mutual trust and aid with those around us. As such, Bookchin’s social ecological systems are “peopled” in that interactions are humanly scaled, particular, local, and rich with human character (2005, 435). Communities would form in “culturally distinct neighborhoods,” goods and services would be exchanged alongside gossip, the means of subsistence would be close at hand, and decisions would be made, carried out, and reexamined reflexively (2005, 433). Moreover, these social ecologies would center politics and spirited engagement rather than “the delegation of power and spectatorial politics” (435). Human-scale, diverse communities that are freely chosen cultivate involvement in decision-making processes. The choice to engage in public matters is the benchmark of citizenship and enhances the human spirit.
This call for diverse and non-hierarchical, consociative and self-directed communities anticipate the energy democracy framework. Such human-scaled technologies would require “the need for direct democracy, for urban decentralization, for a high measure of self-sufficiency, for self-empowerment based on communal forms of social life — in short, the nonauthoritarian Commune composed of communes” (2004, 66). From here, Bookchin sketches a blueprint for how locales can work in cooperation and coalition intentionally without centralizing authority or obscuring the particular needs of concrete actors. In a section that anticipates Kristov’s model of ecological hierarchies of energy system organization, Bookchin suggests that communes should be knit together not into states but into larger scale Communes, “networked confederally through ecosystems, bioregions, and biomes” so that “ethnic parochialism and political exclusivity” may be avoided while maintaining communal autonomy (2005, 444). With this basic framework in place, the rest should be left up to the arbitration of individual communities in relation to their tastes, ecosystems, and active deliberation. Here, consociation is organized around groups chosen based on affinity and “consciously cultivated relationships,” rather than on restrictive and parochial blood ties (2005, 443). The possibility for people to choose their communities by relocating would also be important.

As people choose communities based on affinity, it is worth engaging the problem of othering vis-à-vis outsiders and repression vis-à-vis insiders. These problems fundamentally emerge from hierarchy and domination, which communities of consociation are designed to avoid. However, it would be naive to suggest that violent exclusion and repression do not occur in decentralized communities. At the same time, it is worth noting that centralization actually makes problems of othering more dire. In centralized systems, such as a state, those who do not find resonance with their communities are not afforded the chance to build their own communities outside the orbit of existing powers (Scott 1998; Anderson 2006). Moreover, centralized systems bring with them advanced methods of
management that enable dominant powers to more effectively repress aberrant individuals and communities (Foucault 1977). The insight that oppression requires a coercive apparatus dates back at least to Rousseau, who argued in *The Social Contract* that slavery in the state of nature would be impossible without a legal apparatus and police force (Rousseau [1762] 1947). The repression of people of color, femmes, immigrants, and queers in America was made possible not simply through the parochialism of the white-cis-hetero-patriarchy from the bottom-up, but more importantly by prisons, the police, housing restrictions, inaccessible health care, subsidies to polluting corporations, and many more institutions and processes bound up in the centralizing power of state and capital formations. In contrast, communities founded on affinity and free of management by centralized institutions can be porous, so that community members who seek affinity elsewhere are free to do so (Goodman 1965).

From here, it is also worth considering how Bookchin imagines these consociative communities should engage with the non-human world. First, Bookchin is no primitivist. This is not because Bookchin does not desire a more naturalistic way of life, but because the characterization of nature as primitive gets nature entirely wrong. After all, nature is flux, and for Bookchin “we slander the natural world when we deny its activity, striving, creativity, and development as well as its subjectivity” (2005, 411). Nature is not something to *return* to, as though nature existed in our past, nor is naturalization about living with less than we do now. To the contrary, humanity does not exist in a state of real scarcity, but an artificial scarcity created by capitalism (2005, 349). Thus, insofar as Bookchin does advocate our naturalization, that nature is neither “drugged” (2005, 411) nor “stingy” (2005, 349), but defined by ecological relationships. As such, communities would “obey nature’s ‘law of return’” and be oriented toward the “fabrication of use-values” within natural limits (2005, 444).
To build and work within ecological limits, Bookchin advocates for “new technology scaled to comprehensible human dimensions,” including “small solar and wind installations, organic gardens, and the use of local ‘natural resources’ worked by decentralized communities” (2004, 66). Decentralized economies would aid in this venture, since “a relatively self-sufficient community, visibly dependent on its environment for the means of life, would gain a new respect for the organic interrelationships that sustain it” (2004, 38). Those who work with the land “must develop [their] sensitivity to the land’s possibilities and needs while [they] become an organic part of the agricultural situation” (2004, 32). Because such sensitivity requires that interactions are devolved to the human scale, decentralization is a requirement of such attunement (2004). To borrow a phrase from another school of thought, knowledge is always situated (Haraway 1988), and knowledge is required for sustainable interaction with the rest of nature.

The same principle of diversification and attunement to natural settings applies to electrification, as well. Bookchin imagines an electrical grid “pieced together as a mosaic, as an organic energy pattern developed from the potentialities of a region” (2004, 33). “In sunny latitudes, we could rely more heavily on solar energy...in areas marked by atmospheric turbulence, we could rely more heavily on wind devices; and in suitable coastal areas or inland regions with a good network of rivers, the great part of our energy would come from hydroelectric installations” (2004, 33). By diversifying our energy mix, we can gain independence from harmful fuels and power decentralized communities according to what nature offers. One of the most important technologies associated with community choice aggregation is just such a subversion of the prevailing macrogrid, which separates sites of generation from sites of end-use. As will be explored in the first chapter of this work, CCAs can enable greater development of local renewable generation, such as community microgrids or distributed energy resources (DERs). In this way, local control is used to implement local energy sourcing, siting, and end-use. These new systems can not only be
comprised of locally-available generation sources, depending on the climate, but can be built to serve local economies and needs. These possibilities resonate with the energy democracy framework’s emphasis on economic and environmental resilience through decentralization and democratization of energy systems.

The field of social ecology has important affinities with ecofeminism, such as that presented by White in the previous section of this literature review.\(^5\) In the words of Ynestra King, a champion of both social ecology and ecofeminism, “both feminism and ecology embody the revolt of nature against human domination. They demand we rethink the relationship between humanity and the rest of nature, including our natural, embodied selves” (1989, 132). Ecofeminism puts women and the exploitation of women at the core of the ecological problematique. First, the exploitation of women here is wrapped up in the capitalist exploitation of the earth, and the vulnerability of women is exacerbated by ecological calamity (White 2011). But women and the environment share more than an analogous story of abuse and victimization — for ecofeminism, ecological resilience and women’s resilience share a positive dialectical relationship. Women have been on the frontlines of abuse, but also on the frontlines of resistance (White 2011, 18). Insofar as women fight for the ability to interact ecologically with the rest of the biotic community, ecological resilience and women’s self-determination are mutually fortified. White’s work emphasizes this point well in the context of urban gardening in Detroit: “Black women, in this case, engage the environmental and transform vacant land into urban/community gardens and, in so doing, these spaces operate as a safe space where they are able to define their behavior as a form of resistance, one in which their resistance is against the social

\[^5\] While much has been made of the contradictions between social ecology and ecofeminism (Gruen 1992), I argue that the most compelling currents within each school are compatible and complementary. Differences have been promulgated unnecessarily by Janet Biehl, a social ecologist writing in the legacy of Bookchin. Biehl maligns ecofeminism’s use of goddess mythology, which is not today an important strand of ecofeminism (Gruen 1992). In her work “Social Ecology and ‘The Man Question’,” Ariel Salleh argues that while Biehl’s attack on ecofeminism has driven a wedge between these two schools, Bookchin’s work is actually quite close to ecofeminism (Salleh 1996).
structures that have perpetuated inequality” (White 2011, 18). Here, interactive, collaborative relationships with their environments become a means to carve out self-determination and self-efficacy and break out of relationships of domination vis-a-vis class, race, and gender. Because both social ecology and feminism employ the critical edge of ecology as a way to understand toxic relationships of domination and chart paths toward liberation, both perspectives are essential in forming libertarian technics of social and infrastructural technologies.

With these social ecological and ecofeminist commitments in place, it is worth exploring briefly one key way that scholars have identified that we may decentralize our energy systems ecologically. In his work LifePlace: Bioregional Thoughts, Robert Thayer, Jr., advocates a reconstitution of the local bioregionally, according to natural habitats (2003). Like Bookchin, he argues that technologies of transportation and transmission — of water, electricity, and people — have made possible dramatic disconnections between human and non-human worlds, which “leads directly to the exaggeration of the scale of human infrastructure and to the extraction of resources at rates far in excess of rates of natural regeneration” (2003, 8). Like Bookchin, Thayer recognizes that without a good deal of interaction with local habitats, sustainable and ecological interactions are jeopardized. Situating resource and economic activity sources close to end use here provides an important correction. Insofar as ecological crisis results from “the sheer displacement of resource and economic activity sources from end uses” (2003, 121), bioregional autonomous self-governance and self-determination can make for more resilient and sustainable interactions between humans and their natural environments by internalizing costs and harvesting at sustainable rates (2003, 124).

Thayer brings this conversation to bear on the California electrical grid and claims that a bioregional approach to electrical systems enables both more efficient and sustainable policies. Thayer remarks that “the electrical power delivery system is notoriously inefficient
Nearly two-thirds is lost in transmission-line reductions, conversion inefficiencies, and waste heat” (2003, 129). These inefficiencies are due in large part to the vast distances power must often travel in California due to the geographic remove of use from source. Alternatively, Thayer argues that “locally controlled utilities are more apt to facilitate source-to-end-use matching of energy, with the result that greater efficiencies in production versus use can be achieved” (2003, 133). The premise here is that local needs are best expressed, recognized, and met within bioregions. While Thayer does not reference community choice aggregation in particular, his vision is a stunning approximation of the movement currently under discussion. Thayer anticipates the movement toward community choice aggregation by explicating these characteristics of a “truly relocalized, ‘bioregional’ energy system” (2003, 134).

Bookchin concludes his work with the assertion that libertarian technics “can tolerate no disjunction between ends and means: “Direct action, so integral to the management of a future society, has its parallel in the use of direct action to change society. Communal forms, so integral to the structure of a future society, have their parallel in the use of communal forms — collectives, affinity groups, and the like — to change society” (2005, 446-447). The goal of liberation requires the process of liberation. This literature review has explored works that emphasize the moral and practical arguments for structuring our communities around participatory governance. Direct engagement and communal life are crucial to both individual creative development and communal resilience. These guidelines for building liberatory social organizations and mending ruptured ecological relationships deeply inform the energy democracy framework and should be considered throughout the conversation about community choice aggregation to follow.
5. Science and Expertise

The thrust of this literature review has been to argue for an energy democracy framework and advocate for its usefulness in understanding the aims and conditions of successful CCAs. Moreover, I have emphasized democratization in energy decision-making procedures. This assertion would be naive if attention were not also paid to the matter of scientific expertise, which must be mobilized when addressing these energy system issues, as with any field of public concern that is intensely technical. In this section, I will ask, *In pursuit of energy democracy, what do we need to know about the relationship between science and democracy to best incorporate expertise that serves the public?* In offering some answers, this section begins with an account of how bureaucratic management of energy questions faces a crisis of legitimacy when removed from public participation. I then demonstrate how science can be mobilized by publics when faced with sluggish, incompetent, or nefarious state formations. In this way, I complicate facile arguments that science is exclusively and most typically a mechanism used by states for the purpose of domination: instead, governmental noninvolvement also fails to speak to public concerns. From here, I argue that science best serves public ends when it is locally manifested, and when it is directed by democratic principles of negotiation, consensus-building, and assertions of autonomous expertise. These themes, resonant with the energy democracy framework as explicated in previous sections, show how democratic principles can be mobilized to strengthen and legitimize science.

In his work on the welfare state, Claus Offe argues that by consolidating decision-making powers and removing avenues for public participation, technocratic institutions generate their own crises of legitimacy. Carol Hager develops this point in her work on the

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6 To clarify, I use the term “democratic principles,” rather than typical democratic processes, to clarify that an approach to science and expertise resonant with the energy democracy framework does not entail, for example, voting on what correct science looks like. Throughout this literature review, I have hoped to communicate that democracy explicitly is not reducible to majoritarianism,
environmental movement of the 1970s and ‘80s in West Germany. At the start of these movements, institutional avenues for citizen participation, such as parliament, did not possess the technical expertise to develop energy policy, which was determined largely by closed, expert-led bureaucratic structures that lied outside the reach of citizens (1995). Incorporating Offe, Hager argues, “the very technical complexity of these projects is used to justify their removal from popular influence. They are considered the territory of experts, removed from politics” (1995, 3). Moreover, “The new citizen groups connected environment with democracy; to them, destruction of the natural environment was linked to the nonparticipatory form of decision-making” (1995, 2). While the groups failed to win all their substantive goals, “as a result of the controversy the plant [in question] was scaled down, relocated, and equipped with the latest pollution control devices” (1995, 4). More importantly, “on the legitimation dimension, the legacy of the controversy is a more skeptical, activist, informed populace and an everyday political discussion of environmental matters previously reserved for technical experts. Bureaucratic encapsulation is no longer possible” (1995, 4). Hager demonstrates that when non-participatory policy-making bodies face crises of legitimacy, citizens can mount successful citizens’ campaigns through a search for alternative means of advocacy.

In *Slick Policy*, Teresa Spezio describes another instance wherein publics assert their own capacity for participation, this time through the mobilization and transformation of science (2018). Using the context of the 1969 Santa Barbara oil spill, she argues that the spill provided a stage for scientists to test and publicize their new technologies of measuring pollution to other scientists and government officials (2018). While new chemical technologies were developed by industries in the wake of World War II, technologies of pollution detection and regulation that were made possible by these industrial developments did not immediately follow suit (2018). At the time of the Santa Barbara spill, but is instead dependent on participation.
scientists were regarded by members of the local public as insufficiently objective because the scientists brought in to study the effects of the spill were bankrolled by the oil industry (2018). Moreover, they were accused of the “underuse of emerging methods” of chemical analysis (2018, 165). Most importantly, prevailing methodologies did not square with what locals were seeing and experiencing on their own beaches (2018). Concerned publics therefore forced scientists to use newly-developed technologies of pollution detection. Here, publics were able to seize science and technology for the satisfaction of public concerns over and above the discretion of industry.

Spezio presents one case wherein the public mobilizes science to address matters of public concern; in her work on environmental governance in Chile, an archetypical neoliberal state lacking the capacity to generate scientific knowledge, Javiera Barandiarán further complicates the notion that science serves to depoliticize publics and argues that government noninvolvement in environmental problems fails to serve the common good (2018). Using Scott’s notion of the rationalizing, totalizing “empire” state as a foil, Barandiarán shows how the Chilean government has undermined chances of responsible environmental management by playing the “umpire” in matters of environmental concern (2018, 6). During his rule, Augusto Pinochet had incorporated the neoliberal economic policies of Milton Friedman, who advocated for just such an “umpire” state that would not dole out expertise, but “provide a means whereby we can modify the rules, to mediate the differences among us on the meaning of the rules, and to enforce compliance with the rules on the part of those few who would otherwise not play the game” (Friedman 1962, 25; from Barandiarán 2018, 6). This umpire state, when trained on the environmental problematique, captures the essential problem of ecological modernization: that institutions can be mobilized to make the playing field work for capital without attending to the common good. Barandiarán shows how the response to state-as-umpire on environmental questions has manifested a similar crisis of legitimacy explicated by Hager. Writing of a
series of protests in 2011 against a range of issues, Barandiarán summarizes, “the state faced a crisis of legitimacy because it lacked the capacity to answer citizens’ demands” (2018, 6). But this time, the state’s inability to speak to public concerns was not based in their technocratization of public concerns, but their inactivity vis-à-vis industrial despoliation.

It is thus far too simplistic to conceive of science as either simply a tool of domination or empowerment; it is also insufficient to declare that science is both. As we search for ways to navigate matters of public concern that require scientific expertise, an energy democracy framework demands that we be attentive to which actors are served. To this end, Barandiarán argues for “cultivating ‘critical communities' that include scientists into routines and procedures that allow them to participate in the vetting, probing, and making of state policies as well as decisions” (2018, 21). Critical communities exist within “civic epistemologies” (Jasanoff 2005, 249) — that is, “the institutionalized relationships between individuals, groups, and organizations that sustain routine procedures used to produce, validate, disseminate, and apply knowledge to collective decisions” (Barandiarán 2018, 30).

Specifically, critical communities within frameworks of civic epistemologies must manifest at the local level. From an emphasis on place-based knowledge, Barandiarán argues that scientific collaborators must “recognize the importance of scientists’ cultural attachments to the work they do,” demonstrating that foreign-led studies flag along three dimensions: “knowledge of local geography, knowledge of local society, and institutionalized accountability” (29). In this way, Barandiarán presents another practical reason to pursue decentralized decision-making systems as scientific expertise is mobilized as meaningful governmental actors to address matters of public concern.

Following Spezio and Barandiarán, we are invited to understand a more complicated relationship between the people and science than is typically conveyed by critics of bureaucracy and technocracy. While bureaucracy and technocracy might serve a crucial
function to state and capital formations by depoliticizing conflict, the relationship between science and democracy is not entirely one of popular alienation. In his survey of this relationship, Mark Brown argues that science and democracy are bound in that they involve and require processes of representation, or “practices of mediation that transform what they represent” (2009, viii). Here, neither the will of the people nor the status of science are fixed, and neither people nor science are simple outputs; instead, they are coproduced through transformative processes (2009). On the side of science, “Scientific facts emerge from hybrid processes shaped by human ingenuity and initiative, sociotechnical structures, and institutions, and nonhuman entities and phenomena” (2009, xi). Likewise, Brown views representation not just as an expedient form of coping with the large size of modern states, but as normatively superior: representative governance forms the people, which do not exist prima facie (2009). Perhaps because Brown does not distinguish between participatory and direct democracy, he does not grasp the dialectical development of subjectivity inherent in participatory governance and instead flattens participatory governance to a correspondence model of truth (2009). Thus, he takes for granted that representative governance is essential to the active construction of the people while ignoring less hegemonic alternatives. Still, his basic insight is important: that both science and the people are built things constructed of shared interests and sympathies, as systems of “collective representation that continually mobilizes and transforms both nature and citizens” (2009, 8).

Still, Brown recognizes that with the rise of the “risk society,” there was an amazing growth in public demand for expertise that went unmet, since expert knowledge in the risk society is “often incomplete and uncertain,” and citizens’ interests are often “inchoate or unclear” (Brown 2009, 11). In a word, the people cannot fully articulate their concerns, and experts cannot resolve them. In such cases, expertise is suspended, and interest groups are free to shop around for expertise that suits their ends (2009). In her work *The Fifth Branch*,
Sheila Jasanoff responds to this crisis of confidence surrounding both political and scientific authority (1990). Like Brown, she endeavors to bring awareness of the socially constructed nature of scientific reality into policy analysis literature (1990). Jasanoff is critical of both the technocratic approach, which “looks to scientists as primary validators of policies with high technical content” and the democratic approach, which “views broad public participation as the antidote to abuses of expert authority” (1990, vii). Instead, she looks at scientific advisory committees, emerging in the context of the risk society, to center a discussion of the relations between science and regulation. A central question for Jasanoff is, why does expert knowledge so often fail to contain or close technical disputes (2)? In a word, why don’t decision-making bodies listen to experts?

Jasanoff describes a scientific advisory process as neither technocratic, in that their science is contingent and socially constructed and often hamstrung by litigation and other judicial procedures, nor as democratic, since participation by lay-interests and cross-examination is limited (1990). Moreover, “the artificiality of [the strict separation between science and politics] can no longer be doubted” (1990, 230). Instead, suggesting such a strict separation “frequently generate[s] more conflict than those which seek, however imperfectly, to integrate scientific and political decisionmaking” (1990, 231). To this end, Jasanoff suggests that scientific advisory proceedings might be “most effective in building consensus and guiding policy when they foster negotiation and compromise” (1990, 230). Better work can be done with greater resolve when artificial boundaries separating science and democracy are cast aside. The underlying point here about negotiation is that legitimacy hangs not just on assertions of expertise, but on the active creation of consensus. In this way, Jasanoff’s work extends and supports the participatory principles of an energy democracy framework.

At the same time, Jasanoff develops through case studies the assertion that while negotiation is “one of the keys to the success of the advisory process,” negotiation alone “is
not sufficient to ensure the public and judicial acceptability of agency decisions based on regulatory science” (1990, 234). In addition to negotiation, scientific advisory bodies must also engage in boundary work. Boundary work, like posting “‘keep out’ signs to prevent nonscientists from challenging or reinterpreting claims labeled as ‘science,’” is “crucial to the political acceptability of advice” (1990, 236). Through negotiation and boundary work, scientific advisory procedures are imbued with opportunities to build broad consensus and assert unshakeable authority. Often, negotiations may actually concern the drawing of boundaries (1990, 236). Moreover, boundaries, whose construction must be actively engaged with, are not only mechanisms for depoliticization, as has been the concern of many thinkers on the Left, but also mechanisms of repoliticization as groups and interests assert their claims for engagement and to knowledge. Boundaries are thus also claims toward self-direction and autonomy resonant with energy democracy and social ecology principles.

In her work *Knowledge, Policy, and Expertise*, Susan Owens draws attention to boundary organizations, which are tasked with the boundary work that depoliticizes and repoliticizes matters of fact and concern (2015). Here, Owens argues that boundary work is not just the unconscious product of structures, but is also a “proactive, intermediating activity, capable of being planned and managed” (2015, 15). Boundary organizations, existing at frontiers of science and policy and including actors from both sides, produce boundary objects such as reports, models, and ideas (2015). In the context of CCAs, boundary organizations such as the advisory working group that incorporated county staffers and community stakeholders, was created to oversee the production of the boundary object of the feasibility study. Owen’s insight that boundary work is a site of indeterminacy that can be planned and managed opens to the understanding that the process of a technical feasibility study is not a simple, pure, and scientific output. It is
instead a built object emerging from a site of contestation where claims to knowledge are made to fashion legitimacy while actors negotiate consensus.

The ultimate goal for Jasanoff is not “the naive vision of natural advisory bodies ‘speaking truth to power,’ for in regulatory science, more even than in research science, there can be no perfect, objectively verifiable truth” (1990, 250). Instead, we should work toward “a serviceable truth: a state of knowledge that satisfies tests of scientific acceptability and supports reasoned decisionmaking, but also assures those exposed to risk that their interests have not been sacrificed on the altar of an impossible scientific certainty” (1990, 250). Jasanoff’s intention is thus to help make manifest a kind of science that works, and moreover works for the public interest, and she argues for consensus-building through negotiation with some boundary work to guard expertise and ensure acceptance and trust. Jasanoff critiques any clear fact-value distinction between science and society, politics, or power. In this way, perhaps, we should align with Latour and admit that the search for facts must be driven by matters of concern (2004). The energy democracy framework argues that matters of concern must be determined by the publics that a given infrastructure serves, and this section has explored how science and expertise may be used to further common goods insofar as science and expertise emerge through practices resonant with democratic principles of local situatedness, negotiation and consensus, and assertions of autonomous expertise through boundary work.

**C. Policy Review**

1. Pre-History: Regulation and Deregulation in the United States and California from 1893 to 2001

Our electrical system is a techno-cryptic web of policies and institutions, characterized by complex intersections of regulatory and management bodies, featuring both public and private institutions, and generating technocratic policies made far from public view. The
mystification of such publicly-relevant infrastructure effectively depoliticizes questions regarding the production, distribution, and consumption of energy. Meanwhile, our energy system is replete with injustices: production is located in disempowered communities, is inefficiently transmitted across vast distances at great environmental cost, and often leaves areas at the fraying edges of grid systems vulnerable to outages (Sovacool and Dworkin 2015). To grasp ownership of these systems that manage public and private life, as community choice aggregation has the potential to do, requires an understanding of how that depoliticization occurred, how environmental and social gains were sidelined along the way, and what opportunities have been uncovered for us to seize our power once again. This section begins by charting the rise of private utilities through the centralization of regulatory powers. Here, regulation of electricity emerges from and enables collusion between state and capital forces and reveals some problems of bureaucratic management. Next, I demonstrate how state-run attempts to weaken the power of private utilities through deregulation ultimately helped utilities maintain market power. Next, this section turns to a study of 1990s deregulation in California, which I argue took an eco-modernist form, and proceeds to a discussion of the resultant electricity crisis of 2000-2001. I conclude by positing renewable portfolio standards (RPS), net energy metering (NEM), and community choice aggregation (CCA) as important outputs of the crisis. Understanding this history is crucial if we are to pick up the pieces and take control over our electrical infrastructure.

The first phase of utility dominance is characterized by a move toward regulation as a way to legitimize and concretize private power, and toward centralization as a way to most efficiently capture that regulatory process and shape technologies for the profit of private utilities. Before investor-owned utilities (IOUs) came to dominate energy infrastructure in the early twentieth century, there were debates on the municipal level as to whether power should be managed by companies or by cities (Wasserman 1999). If electricity systems were public, “municipalities could own the system’s assets, provide service at a lower price, and
create municipal revenues through the process” (Stokes 2015, 81). Private firms, which were well-funded, well-connected, and well-lawyered, fought public power until Samuel Insull of Commonwealth Edison Company in Chicago proposed a “third way”: private firms would submit to regulation by public entities, thus legitimizing privatization in the eyes of the public (Wasserman 1999, 20). These firms would occupy noncompetitive “natural monopolies” over specified geographic regions, thus centralizing production in favor of large companies but in the name of efficiency (Stokes 2015, 82). Crystalizing in 1907, consensus between utility managers and politically prominent parties affirmed this “third way” utility dominance (Hirsh 1999). Two important trends emerge from these first years of electrical debates. First, private utilities holding natural monopolies developed technologies that necessitated greater centralization. Second, industry leaders “exerted power over the regulatory bodies that purportedly oversaw their activities” (Hirsh 1999, 9). Put another way, public regulation of private interests via regulation served to legitimize rather than check the power of private firms. With the establishment of the first state-level public utility commissions (PUCs) in 1907, regulatory powers were evacuated from municipalities and PUCs became more vulnerable to regulatory capture by utilities, who were those regulatory bodies’ “main and most influential stakeholder” (Stokes 2015, 87). Utility managers found it increasingly easy to control regulators as politicians and civic reformers lost interest in utility affairs and utilities continuously brought down the price of electricity, both through development of new technologies and containment of radical inventions that could upset energy centralization (Hirsch 1999). Ultimately, both regulation and centralization served to empower and protect private utilities.

Utility dominance started to falter in the 1970s. Utility systems’ technological improvements stagnated and their declining costs plateaued, the energy crisis of 1973 motivated politicians to intervene in energy systems once again, and the environmental movement created public demand for renewable energy (Hirsch 1999). During the Carter
Administration, activist policy pushed for deregulation aimed at opening the electrical industry to reduce its costs and pursue more renewables. At the same time, this activist trend was not so much regulatory activism but deregulatory activism. Policy under Carter was designed to challenge utilities through deregulation and market logics, with substantial research and development funds focused on renewable technologies. As part of a solution to rising energy costs and growing concerns about the environment, in 1978 President Carter and federal lawmakers created the Public Utility Regulatory Policies Act (PURPA) (Hirsch 1999). The policy privileged independent electric power companies, enabled new producers to offer electricity at prices comparable to those offered by regulated power companies, and “led to the introduction of free-market principles” into energy systems (Hirsch 1999, 71).

The incentives for alternative generation companies under PURPA’s Section 210 were especially great in California, precipitating a “‘gold rush’ of nonutility energy entrepreneurs” (Hirsch 1999, 89). However, in California PURPA favored the development of natural gas over green alternative energy systems (Stokes 2015). Further, gains in renewables nationally started to falter in the 1980s and '90s once the federal government, administered by Presidents Reagan and Bush, defunded nearly all renewables research (Wasserman 1999). The 1990s were “largely a lost decade for renewable energy policy,” as the conversation changed from renewables to deregulation (Stokes 2015, 192). In sum, the very deregulatory activism that opened up energy markets to renewable technologies manifested free-market policies that failed to secure those gains. This history suggests that liberalization of the energy market is a fickle mechanism for achieving new green energy technologies.

In the 1990s, efforts at deregulation at the California Public Utilities Commission (CPUC) deepened. Here, deregulation refers to attempts to reform the electricity system to achieve lower prices and greener energy by breaking utility monopolies’ geographic control over electricity sales. In this way, consumers are allowed to buy energy directly from
producers, introducing competition. Collusion between state and corporate actors persisted, though mechanisms for achieving greater renewable content were effectively sidelined. In 1993, the CPUC started allowing large consumers to buy directly from independent energy service providers and choose where “to buy their energy from, along with how green that energy would be” (Stokes 2015, 194). The pinnacle of deregulation legislation in California was AB 1890, and its main function was to bring those market choices already available to large customers to all individuals. The bill was crafted by John Bryson, who had been both the chair of the CPUC and the President of Southern California Edison (SCE) (Wasserman 1999). While deregulation was intended to lower prices and achieve higher renewable content, AB 1890 was a boon for IOUs and did little to incentivize renewables. It allowed IOUs to reap $28.5 billion in “stranded costs” of uncompetitive generating facilities that could not be recouped on the market (Wasserman 1999, 56), precipitated windfall sales for IOUs in their gas and coal fired plants (Faulkner 2010), and opened competition only on the individual level such that “less than one percent of California’s consumers had switched to a new provider” (Wasserman 1999, 60). In sum, IOUs got to offload bunk assets and did not face real competition.

Renewable development under deregulation in California depended largely on “green market” policies that failed to shore up gains for renewables. Green market strategies include those avenues for achieving higher renewable content through market mechanisms. These strategies included green power purchasing (GPP), based in customers’ new freedom to buy renewable energy on a deregulated market, as well as the public goods charge (PGC), which collected small, volumetric charges from customers to fund public benefits, such as renewable energy and energy efficiency projects (Stokes 2015). Importantly, both GPP and PGC could still function under a deregulated market (Stokes 2015). Meanwhile, the CPUC’s “Blue Book,” a rough guide to deregulation in California, “provided little incentive for existing or new biomass, geothermal, wind, or solar plants, which were more expensive but
provided additional environmental benefits” (Stokes 2015, 198). This trend toward green marketing can be understood as an eco-modernist tactic to address concerns with the electricity system. Here, eco-modernism entails specifically the resolution of environmental problems such as runaway energy use by using market mechanisms instead of policy mandates, community decision-making, and demand reduction.

The failure of this scheme to increase renewables simply through market mechanisms was unsurprising to many green advocates at the time. In her report “Green Buyers Beware,” lobbyist for American Wind Energy Association (AWEA) in California Nancy Rader argued, “To suggest that green marketing is an answer to the lack of market penetration of renewables is to ignore the market imperfections that have hindered renewables in the first place” (Rader 1998, 4). Such market imperfections, including externalities, public goods, and transaction costs, hamper the efficient workings of the market and necessitate policy intervention (1998). From here, Rader recommended a three-pronged approach to the problem of renewables and sustainability. First, echoing some of the core principles of energy democracy, Rader called on “consumers as citizens” to push for policies that “ensure that the industry becomes significantly cleaner over the next decade” (Rader 1998, 51). The most important such policy was the Renewable Portfolio Standards (RPS), which created a binding requirement for new renewables (Stokes 2015). Second, with a recommendation foreshadowing community choice aggregation, citizens would have to work together “to create a purchasing agent, or public aggregator, to purchase green power on behalf of all citizens in the community,” which was precluded by AB 1890 (Rader 1998, 51). Critiquing AB 1890, Rader writes, “Relying on individual choice to achieve social goals also ignores our collective responsibility to achieve those goals through democratic processes” (Rader 1998, 50). If “community choice” were realized, “green power then becomes affordable and meaningful” (Rader 1998, 51). Finally, Rader urges that “the best way for consumers to reduce the environmental impact caused by their own electricity
consumption is to use less electricity” (Rader 1998, 51). Rader’s criticism of California’s deregulation scheme may not be worth such careful explication if this were simply a policy memo written by a lobbyist; Rader’s remarks are noteworthy because they so explicitly foreshadow the aims of community choice aggregation and resonate with energy democracy commitments to community participation in questions of energy systems.

California’s experiment with deregulation culminated in the electricity crisis of 2000-2001. AB 1890 inducted two new regulatory and management apparatuses: the California Power Exchange (CalPX), a spot market that handled day-ahead electricity sales, and the California Independent System Operator (CAISO), tasked with ensuring the California electricity system had enough power to meet demand each day (Faulkner 2010). Because CAISO was forced to pay higher prices for energy when it was kept scarce, energy sellers were incentivized to maintain conditions of artificial scarcity (Faulkner 2010). In this way, free markets meant creating a market that could be easily manipulated for the benefit of sellers. As a result of artificial scarcity, caused by this physical withholding of power as well as increased natural gas prices, average energy prices rose sharply in June 2000, “breaking the $100 per MWh mark” (Faulkner 2010; Weare 2003, 1). Further, large companies such as Enron manipulated the market to inflate electricity prices at peak demand (Jung 2017). Outages and rolling blackouts plagued the state, and “on the worst day, January 18 [2001], the equivalent of almost one million households lost electricity” (Weare 2003, 2). Investor-owned utilities suffered a crisis of legitimacy in the wake of the 2000-2001 electricity crisis, after which PG&E filed for bankruptcy and SCE required direct financial support from the state to keep the lights on (Stokes 2015). The drivers of the electricity crisis were many, but a key flaw was that:

market and regulatory conditions aligned, making a particularly ripe environment for the exercise of market power. The shortages in generating capacity played a critical role, increasing the bargaining strength of merchant generators and signaling the enormous profits that could be gained through supply shortages. At the
same time, the excessive reliance on the spot market, constraints on transmission capacity, features of the market structure, and the division of regulatory authority all increased the opportunities and incentives for strategic manipulation of the markets (Weare 2003, 50).

California’s experiment with deregulation was a resounding failure because of the excesses of market power that it enabled. At the same time, free market ideologies did not create open markets, but rather enabled the more perfect exercise of market power by already powerful utilities. In response to the crisis, the Federal Energy Regulatory Commission (FERC) eliminated the regulation for IOUs to trade power through CalPX and instead incentivized long-term contracts (Jung 2017). California publics were left with the bill, and advocates of public power and renewables went back to the drawing board.

The two decades since the electricity crisis have witnessed several important changes to the California energy system. In the wake of the electricity crisis, some of the renewables policies suggested by Rader and others began to gain traction. First, RPS policies have been successful in setting progressively higher floors for mandated renewable content, leading to greater development of renewables and a voluntary exodus of several oil and gas manufacturing companies that have relocated to Texas (Stokes 2015). Second, net energy metering (NEM) policies, wherein utilities provide credit to customers with solar panel systems for the energy they produce, have become an oppositional force working against utility dominance (Stokes 2015). Finally, a new policy called “community choice aggregation” would emerge as a solution for how California could deregulate smarter by giving communities a chance to choose how they procure electricity, essentially collectivizing the deregulatory approach of AB 1890, incurring decision-making power to a level of social organization capable of manifesting energy expertise and creating the structure whereby markets can be kept open. The months after the electricity crisis of 2000-2001 were times of bold regulatory experimentation, perhaps even a revival of the 1970s age of deregulatory activism. Californians are still seeing these changes play out, and the
outcomes of these policies are still variable, their futures still unwritten. The remainder of this work will address community choice aggregation and the promise it holds for public power and more sustainable tomorrows.

2. The Promise of Community Choice Aggregation

In 2002, AB 117 brought community choice aggregation (CCA) into existence in California. It passed the California legislature with the promise that it would create a smarter way to deregulate by shifting decision-making power over energy procurement from IOUs not to individuals, but to locally-controlled public agencies. The point of insertion of the CCA in the energy system is illustrated in Figure 3. In his work on the history of electrical utilities, Harvey Wasserman muses that “community choice could be the ultimate fruit of unintended consequences, a back-door route to the public-controlled power stymied by the private utility industry for 120 years” (Wasserman 1999, 67). In this way, it created the policy conditions for energy democracy. While the point of deregulation was most importantly to save ratepayers money, in the wake of the electricity crisis other issues moved to the forefront, including reliability, energy independence, price stability, and renewables (Burke et al. 2005). Crucially, there was a new push for local resilience, inspired in part by Los Angeles, which had maintained municipalized energy throughout the crisis and had been saved from the energy shortages and blackouts affecting the rest of the state (Burke et al. 2005). Shifting priorities and the desire to find new solutions to the electricity system made community choice an attractive model.

Figure 3. Energy System Processes and Actors
Community choice aggregation secures local control by shifting decision-making power over energy procurement from IOUs to community aggregators. In the CCA model, aggregators “combine the electricity demand of customers in their jurisdictions and procure electricity through their own generation or through the market” (Faulkner 2010, 2). Often cities, counties, or some constellation thereof, organize into joint power authorities (JPAs). JPAs then actively choose among energy service providers (ESPs) based on an array of different criteria, including price and source of generation (Burke et al. 2005). In this way, AB 117 and CCA takes seriously Rader’s call for choice at the level of the community, rather than the individual, and incurs in communities the bargaining and decision-making power provided to large industries in 1993 at the start of deregulation and to individuals with AB 1890. Few ratepayers actually switched ESPs through AB 1890, which suggests that energy expertise perhaps does not incur at the level of the individual; it might, however, coalesce and become actionable at the level of the community. Here, communities are empowered to set rates and choose renewable and local energy sources, rather than the local utility’s mix of energy sources (Faulkner 2010). At the same time, aggregation was designed “to facilitate the purchase and sale of electrical energy in a more competitive market” (Burke et al. 2005, 3). In this way, the promise of free markets is realized in the ability to keep markets open through public ownership of that market. Community empowerment and free markets are intended to mutually reinforce one another. At the same time, CCAs are imagined to entrust communities with the power to direct their electricity systems toward substantive commitments, including renewable and GHG-free energy sources, cost-saving to customers, local generation, and local job production. However, the free market and community commitments are not necessarily amenable to each other. As such, an important tension exists within CCAs from their inception. A full exploration of the promises and pitfalls of community choice aggregation will be undertaken in the pages that follow. However, several crucial features must be noted here.
First, CCAs transfer decision-making power over energy procurement from IOUs to locally-controlled public agencies (Weinrub 2017). This feature is the crux of CCAs, and bears the promise of reviving public power in California. Important questions concerning how the local should be defined, as well as how CCAs should be structured, are salient here. However, with CCAs there is the possibility that ratepayers could become engaged once again in decisions regarding matters of electricity.

Second, CCAs are seen by a variety of different groups to constitute a path to more local generation projects, increased renewable content, revenue generation, and cost-savings to customers (Jung 2017). Predictably, these aims are sometimes mutually affirmative, and sometimes contradictory. Nonetheless, the movement for CCAs has brought labor unions, alternative energy companies, consumer groups, environmental groups, and city and county government officials to the table. This alone is an important achievement of CCAs.

Third, CCAs operate on an “opt-out” basis, meaning that “they can choose to stay with their existing electrical corporation,” but must actively elect to do so (Faulkner 2010, 7). On this point, CCAs have a tremendous advantage. In the words of one participant, if CCA programs had to entice consumers, “you would never get off the ground.” AB 1890 saw less than one percent of ratepayers switch providers, which is unsurprising given that most ratepayers are not well-informed of electricity markets. With AB 117, that lack of common knowledge about the electrical utilities may actually work in favor of community choice by keeping people in the programs.
• Fourth, CCAs undermine utility dominance, but they do not entirely expunge them from the electrical system. Under the CCA framework, “the local Investor Owned Utility still owns and maintains the transmission and delivery systems” (Faulkner 2). As such, while no longer guaranteed to make returns from the CPUC on their generation assets, IOUs still stand to make impressive profits off of transmission fees, which for SCE is the bulk of their profit. At the same time, insofar as CCA enables communities to develop new technologies such as distributed energy resources (DER), CCAs could eventually pose an existential threat to utilities.

• Fifth, CCAs exist at the pleasure of the CPUC. In at least one sense, this is good. AB 117 does not contain any language regarding renewable standards, but CCAs must abide by CPUC regulations, and RPS policy concretized there would apply to CCAs as well. (Still, it is unlikely that areas that opt for CCAs would set more regressive goals than a body that oversees all of California and is open to regulatory capture by IOUs.) At the same time, because CCAs are answerable to the CPUC, the CPUC always retains the power to create policy fatal to CCAs. The power to regulate is the power to manage, to cultivate, and to destroy. Recent policy maneuvers at the CPUC have set restrictions that severely limit CCA enactment, a topic that will be taken up in Chapter 5.

• Sixth, by the end of 2018 over 25% of Californians are expected to use electricity procured by a CCA. Over the next five years, as many as 60% of utility customers may depart to CCAs (Weinrub 2017).

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8 Carr, Amelia. September 29, 2017 (25:00).
This brief entree into CCAs will be expounded upon throughout this work. In sum, CCAs could be a way for Californians to not only deregulate smarter by keeping the market open, but by committing to the notion of public power and energy democracy. In the sections that follow, this work will explore how CCAs are intended to speak to four primary public goods: local control, environmental concerns, cost-savings, and local generation.

a. Local Control

Community Choice Aggregation transfers decision-making power over energy procurement from IOUs to locally-controlled public agencies. This feature of local control is the crux of CCAs, and bears the promise of reviving public power in California such that ratepayers could become engaged once again in decisions regarding matters of public concern. For example, they may advocate for energy independence, price stability, energy efficiency programs, renewable and alternative energies, and local employment (Burke et al. 2005). CCAs also allow municipalities to meet other objectives, such as directing funds into local economies through power project development, hiring administrative staff, and reducing local and regional air pollution (Burke et al. 2005). Local control occupies a special place in the analysis of CCAs because it is both a key mechanism for achieving other substantive goals and carries intrinsic value of enabling public participation in key energy questions.

As a mechanism, CCAs are intended to function much like Bookchin’s libertarian technics: CCAs are a form of socio-technical work that brings together social liberation (democracy) and ecological liberation (sustainability). In his 2017 work on CCAs in California, Samuel Jung recognizes that while other market-based environmental socio-technical works have channeled capital toward greenwashed companies, CCAs promise to

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9 Cregar, Jennifer. October 6, 2017, (23:00).
speak to the Just Transition (Jung 2017). For Jung, the Just Transition refers to “a fundamental transformation of the current fossil fuel-based system into place-based, sustainable, equitable, and democratically controlled economies that provide meaningful jobs for workers displaced by the deep decarbonization of society” (Jung 2017, 5). Here, democratic control over energy can ensure local production and jobs, ethical social and ecological relationships, and fair distribution of source and product ownership (Jung 2017).

At the same time, communities are not locked into pursuing particular ends. Instead, publics can “meet their electricity needs in ways that express and align with their values” (Jung 2017, 13). At its most aspirational, CCA creates a mechanism for democratic control over energy that gives communities the power to make good decisions for themselves.

Writing at the same time, energy democracy scholar Al Weinrub recognizes CCA as a potential manifestation of energy democracy. His perspective is also cautionary in that CCAs in and of themselves are no silver bullet: “Community Choice is merely a vehicle; it is not a destination. Without a clear destination and a good driver, this vehicle can take us in the wrong direction, to the wrong place” (Weinrub 2017, 147). Here, substantive economic, social, and environmental justice goals may be achieved only insofar as communities look beyond CCAs as a simple buyer and seller of electricity and manifest community control over CCA programs (Weinrub 2017, 148). Weinrub thus reveals an important tension existing between the eco-modernist and local control mechanisms underlying CCAs, a matter that will be taken up in depth later in this work. Taking a dialectical approach, Weinrub argues that to pull marginalized communities into the conversation — to make CCAs a truly communal venture — will require “building a political base in those communities that would benefit most from such a program — a base centered in working-class communities, low-income communities, and communities of color” (Weinrub 2017, 148). Involvement from citizens should further be institutionalized into community advisory committees and the like (Weinrub 2017). For Weinrub, community engagement in
CCA programs is not simply a feature of community choice, but is necessary for CCAs to achieve other goals. Weinrub here reveals an important distinction between necessary and sufficient conditions of energy democracy. Local control is necessary but not sufficient to energy democracy, in the same way that decentralization is necessary but not sufficient to democracy. Local control opens up opportunities for participation, but energy democracy can only be realized with deep community engagement in CCA programs.

Despite their focus on local control, community choice aggregation is not simply a local phenomenon, but interacts complexly with happenings at the state and federal levels. First, in the context of Santa Barbara, CCAs have also been framed as part of a trend to advance goals on the local and state level that have been directly undermined on the federal level. When asked whether the push for local control bore any connection to uncertainties regarding the future of energy policy on the national level, Amy Parker of the CEC communicated that the “hatred of what's happening at the national level” has been emphasized in conferences and workshops concerning CCAs in California.\footnote{Parker, Amy. September 14, 2017, (28:00).} As California distances itself from federal trends, communities are ripe to move forward locally on CCAs.\footnote{Ibid.} CCAs are an important part of that shift, and Parker affirms that CCAs are the only means by which communities can seize control over their energy sources.\footnote{Ibid, (12:00).} Next, CCAs are also framed as a way for national NGOs such as the Sierra Club to touch down locally.\footnote{Ibid.} In this way, CCAs do not signify localism in opposition to national trends, but are themselves a local manifestation of broader concerns, a friction point between the local and, even, the global (Tsing 2005). Finally, Weinrub argues that CCAs are “essential to building the public institutions, resources, leadership, and vision needed to shape and control our electricity systems at the state level” (Weinrub 2017, 164). In this last instance, CCAs are a way of building local power that can change more centralized systems from below. Thus, it is
incorrect to imagine CCAs’ call for local control as simply an attempt to shut out state and federal level policies that have proven unsatisfactory. It is much more useful to understand CCAs as a local strategy that seeks to incorporate national movement discourse on winnable terrain with hopes of addressing global concerns and affecting statewide policy.

b. Environmental Concerns

While AB 117 is designed to permit communities to pursue local control, and is actually silent on renewables and environmental concerns, the most prominent substantive goal of CCAs is the pursuit of more aggressive environmental standards. When communities are beholden to IOUs, their environmental demands are met at the whim of private companies and the CPUC. Alternatively, CCAs allow communities to surge ahead of RPS requirements. Energy efficiency programs are also expected to be managed better through CCAs than through IOUs (Burke et al. 2005, 8), especially since CCAs will be empowered to set rates for NEM and thus incentivize rooftop solar installations. Presently, and by their own admission, utilities have not encouraged rooftop or community solar, as such programs effectively reduce demand for electricity from the grid.

Jung and Weinrub see energy democracy as a mechanism for securing environmental commitments, but more sustainable electricity policy may also be had through eco-modernist channels of free market competition. In a trend that is expected to continue, Jung shows that as wind and solar technologies advance, their costs have decreased 30-60% between 2008 and 2014 (Jung 2017). Further, electricity policies have both created

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14 Becker, Chloe. September 8, 2017, (Part I, 34:00).
15 The general term “environmental concerns” is used here, instead of “renewable” or “greenhouse gas (GHG)-free” energy, to denote an important debate occurring in CPUC regulation. As of late, policy around alternative energy sources has come to favor GHG-free requirements over renewables. While most renewables are also GHG-free, GHG-free energy sources include such non-renewable energy sources as nuclear and large hydroelectric power. Because electricity policy currently speaks to both renewables and GHG-free energy sources, the broader term is used here.
16 Carr, Amelia. September 29, 2017, (1:00:00).
17 Parker, Amy. September 14, 2017, (14:00).
favorable markets for investment in renewables and increased social buy-in for renewables (Jung 2017). During the first preliminary feasibility studies performed by Navigant Consultants in 2005, implementation plans that reach 40% renewable power by 2017 were considered likely to remain cost effective (Burke et al. 2005). Renewables are also expected to be insulated from price upsets, especially in comparison with oil and gas (Burke et al. 2005).

Across the state, local governments that are motivated to reduce their GHG emissions and to further implement their climate action plans may pursue CCAs as a way to reach those goals. In the city of Santa Barbara, CCAs are also seen to be a crucial component in achieving municipal renewable goals. In June of 2017, the Santa Barbara City Council passed a non-binding resolution to convert to 100% renewable energy by 2030 (Yamamura 2017). The resolution refers exclusively to municipal power use, which does not include residential energy use. Still, Parker from the CEC has cited the CCA as “the most straightforward pathway to helping the city meet that goal,” in part because the CCA will enable the city to electrify its bus fleets and engage in power-wheeling, a process whereby the city could power certain municipal projects, such as the incredibly energy-intensive desalination plant, with off-site photovoltaics. As of now, municipal governments have strikingly little authority over how they source their energy; this would change with CCA program implementation. Not only are CCAs seen as important means to achieve environmental goals, but goal-setting also acts to advance the movement for CCAs. Where piecemeal attempts to achieve net zero status fall short, CCAs can equip cities with the tools to make bold leaps of their own accord, as has been demonstrated by the CCA in Lancaster, CA.

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18 Cregar, Jennifer. October 6, 2017, (23:00).
19 Santa Barbara City Council Meeting. Santa Barbara City Hall. October 31, 2017, (13:00).
20 Ibid, (15:00).
21 Ibid, (19:00).
22 Romano, Mary. September 20, 2017, (15:00).
c. **Cost-Savings**

Despite the emergence of other environmental priorities, lower energy rates are still a principal objective in CCA implementation. Navigant Consulting’s initial 2005 analysis conducted thirteen feasibility studies and found eleven of those studies to “show an average benefit of 5 percent in generation cost-savings from 2006 to 2024” (Burke et al. 2005, 5). Several mechanisms converge here to produce cost-savings.

First, on the organizational side, as energy procurement is shifted from private utilities to locally-controlled public agencies, CCAs are empowered to defer profits. As such, CCAs might chose to yield those cost-savings to customers. Further, because public agencies have control over rate-setting, prices can be intentionally stabilized by bodies accountable to the public. Second, on the techno-economic side, because CCAs still rely on transmission infrastructure belonging to IOUs, start-up costs can be relatively low. CCAs are also typically able to use low-cost financing for the projects, giving them a competitive edge over utilities (Burke et al. 2005). Further, unlike municipal utilities, CCAs are not necessarily tasked with generating their own power, either (Burke et al. 2005). While CCAs might move toward the kind of power system held my municipal utilities, where all infrastructure is owned by the city, especially through progressively advanced administrative, generational, and infrastructural capacity, CCAs can also choose to keep costs low and pass savings onto customers (Burke et al. 2005). Finally, early policy analysis here suggests that costs are expected to fall as the market becomes freed from “regulatory capture by the IOU” (Burke et al. 2005, 5). Other CCAs in Massachusetts and Ohio have yielded promising results on this front (Burke et al. 2005).

There are other important financial reasons for communities to pursue CCAs. Santa Barbara County’s South Coast, stretching across the progressive leaning cities of Goleta, Santa Barbara, and Carpinteria, rests at the end of the power lines, which in places march precariously over the Santa Ynez Mountains. As such, the South Coast experiences frequent
power outages. A CCA program would allow communities to pursue local generation projects to address resiliency issues. For this reason, the Santa Barbara Chamber of Commerce has supported a local CCA, and Santa Barbara City Administrators have also claimed community-wide private sector interest in developing generation, storage, demand response, and microgrid opportunities.

Commitment to cost-savings occupies a crucial yet contentious place in the array of CCA benefits. On one hand, many advocates of CCAs, such as the participant from the California Alliance for Community Energy, have expressed concern that CCAs in SCE territory might not be able to make good on promising lower rates, and any failure to meet those goals could soil the perception of CCAs. Moreover, those fiscal commitments could force CCAs to pursue power purchasing that contradicts other substantive goals such as environmental concerns or local generation, which will be discussed shortly. In the short history of CCAs, some programs that were motivated by cost-savings rather than environmental benefits have shuttered early in their development. Chicago’s CCA, which emphasized cost-savings, closed just a few years after its launch due to market changes that made the program less attractive. The CCA serving the San Joaquin Valley Power Authority (SJVPA) was also suspended in 2009, just three years after its feasibility study, due to market conditions (Faulkner 2010). In the SJVPA case, like the Chicago case, environmental concerns had not been identified as a priority, and this dearth of ideological commitment has been cited as a possible explanation for the failure of these programs and the success of other early CCAs that privileged environmental commitment, such as Marin Energy Authority (Faulkner 2010). Though ideological commitment, or institutional inertia, might sustain an active CCA through unfavorable market conditions, it is logical that a CCA established to deliver cost-savings should fold when it is no longer capable of doing so.

24 Santa Barbara City Council Meeting. Santa Barbara City Hall. October 31, 2017, (Line 40).
Still, while CCAs committed to cost-savings might not weather market storms, rate competitiveness is fundamentally baked in to successful CCA operation. If a CCA’s rates are significantly higher than those offered by the incumbent utilities, ratepayers may opt out of the program and render them infeasible. Even slight changes in rates could be levied against CCA advocates in policymaking roles, jeopardizing their positions. In this way, for many CCAs, including that proposed in Santa Barbara County, low-cost might constitute more of a floor or requirement, even if not a substantive goal.26

### d. Local Generation

While CCAs can simply collaborate with energy service providers (ESPs) to address their generation needs, they can also directly fund the development of new energy generation facilities for greater transmission efficiency and higher renewable content (Burke et al. 2005). Local generation is a particularly important rallying cry for Santa Barbara because of its relative isolation in the grid and its resultant resiliency needs.27

Local generation would by definition be more decentralized, and typically smaller in scale. New electricity source technologies, which are amenable to such localization, are commonly referred to as distributed energy resources (DERs), and they are comprised of three components: decentralized electricity generation, demand reduction, and system balancing (Weinrub 2017). Aspirationally, they are also referred to as Net Zero Energy Systems. DERs would be sited on “existing structures or vacant or contaminated land close to the point of electricity consumption so that the high cost and energy loss of high-voltage transmission lines is not required” (Weinrub 2017, 144). As such, decentralized local generation is more efficient and more ecological, as DERs must be designed according to what is naturally available in the particular geographic region, whether that may be solar,

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26 Ibid, (23:00).
wind, geothermal, small hydroelectric, wave turbine, combined heat and power, or biomass (Weinrub 2017).

In addition to being more ecologically liberatory, in Bookchin’s sense, DERs also speak to social liberation through energy democracy. Weinrub argues that “the centralized energy model, even when applied to renewable energy, is based on large-scale, centralized generating systems — big solar plantations and large wind farms — that are the product of concentrated financial and economic power” (Weinrub 2017, 144). As such, even the environmentally sustainable centralized renewable plant “represents the interests of powerful economic forces aligned with investor-owned utilities and aided by a corporate/state apparatus unfettered by democratic restraints” (Weinrub 2017, 144). Alternatively, DERs enable the shift to decentralized, democratically controlled production by turning consumers of electricity into producers by distributing generation throughout the communities that own and use their power (Weinrub 2017). When the polarity of electrical systems is reversed, so that consumers become producers, centralized and bureaucratic hierarchies may be upset. Power is relocalized, and the centers of generation and consumption become many. This transformation resonates with Kristov’s conception of ecological energy decentralization, which places concrete local actors at the center of electrical systems with local and regional interconnections that emerge in service of their many distributed centers (2017). Public power that serves its publics is the essence of energy democracy.

From here, and even more boldly, DERs bear the promise of challenging existing paradigms of capitalist exploitation and alienation. In capitalist production, alienation occurs when “the object that labour produces, its product, confronts it as an alien being, as a power independent of the producer” (Marx [1844] 2000, 86). In this sense, actors do not overcome their alienation when energy is distributed to them equitably, or even when energy distribution is managed by public bodies. Local actors empower themselves when
they in fact become producers (Jung 2017). In this way, local actors can seize the reins of their electrical systems, shape them to their will, and in so doing become history makers (Flacks 1988).

Community choice aggregation can also be a way to accrue benefits in communities.28 Local generation is crucial should CCAs want to deliver social, economic, and environmental benefits to communities. This is because these benefits hinge on the construction of environmentally sustainable energy projects, located efficiency close to sites of end-use, and built by local union labor (Weinrub 2017).29 CCAs can stimulate new jobs, through professional staffing as well as construction and operation and maintenance roles.30 Unlike “buying from central,” local generation and local control keep investments and jobs close to home.31 Further, CCAs can help ensure local energy resilience in the face of natural disasters, which can contribute to a more secure local economy.32

CCAs merely present the opportunity for community engagement; local generation is the essential characteristic of a CCA that brings communities into substantive interaction with their energy systems by making community benefits available. In this way, communities can realize that they have skin in the game (Taleb 2017). Chloe Becker from the CACE recognizes that associated programs such as demand response energy efficiency and transportation electrification produce social justice benefits that can speak to environmental justice aims: “Those who have historically lived in environmentally unsound neighborhoods can receive benefits from these programs. So that’s why I feel like it’s so promising.”33 Through CCAs, communities may be able to create important benefits for themselves and through their own institutions.

30 Cregar, Jennifer. October 6, 2017, (23:00).
31 Lewis, Craig. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (1:09:27).
32 Santa Barbara City Council Meeting. Santa Barbara City Hall. October 31, 2017, (Line 43).
33 Becker, Chloe. September 8, 2017, (Part I, 2:00).
At the same time, promises of local generation are not always enough to get union support for CCAs. According to the CEC, the International Brotherhood of Electrical Workers chapter covering exclusively PG&E territory was involved in AB 726, a bill that would have effectively killed CCAs by requiring IOUs to engage in more long-term contracts for renewable energy. Still, local IBEW chapters like Local 413 in Santa Barbara County and Local 11 in Los Angeles tend to favor CCAs, so long as those programs are geared toward local generation. Thus, insofar as IBEW chapters are convinced they can secure steady work through IOUs, they may oppose CCAs.

CCAs may create opportunities for local generation, but they will only be able to make good on those promises if they have the financial capacity to engage in new local projects. As it stands, local generation is somewhat at odds with the objective to secure cost-savings. Essentially, as CCAs generate revenue through electricity sales, they must decide how to mete out that excess: they may favor reducing rates for customers, or they may invest in local generation projects. To be sure, local generation projects may yield cost-savings in the future and promise to create other positive economic externalities. It is unlikely that CCAs will prioritize either aim absolutely over the other, instead seeking a balance between these two goals. At the same time, CCAs are often faced with the choice of which to privilege at any particular juncture, and this choice is important insofar as it makes manifest the tension between eco-modernism and energy democracy. While eco-modernism strives to address environmental concerns by stabilizing “business-as-usual” practices, energy democracy seeks to transform socio-technical systems and put them under democratic control. This tension lies at the heart of the dilemmas that confront community choice aggregation in Santa Barbara County.

34 Parker, Amy. September 14, 2017, (26:00).
e. The Process

As per AB 117, any city, county, or combination thereof can pursue a CCA program as long as they are currently located within an IOU service area. Most of these steps to forming a CCA are designed to manage relations between the aggregator and regulatory bodies, regional IOUs, local governing entities, and customers, though still more enact protocols that shift energy procurement responsibilities to the CCA and provide for its operation. These steps are illustrated in Figure 4. Certain steps and protocols must be followed in order for an aggregator to commence a community choice aggregation program. Other protocols, while not legally required, are now considered to be best practice.

Figure 4. Community Choice Aggregation Enactment and Implementation Processes
When a governance unit resolves to form a CCA, it must submit a Declaration to Pursue to both the service area IOU and the CPUC. Each city and/or county desiring membership in the CCA must also pass a local ordinance or resolution to make their membership official and to pursue the formation of the legal entity. If the CCA is being formed in a single jurisdiction (e.g. the City of Lancaster, or the County of Santa Barbara’s unincorporated area) they must establish a division within their governing structure to administer the CCA. If the CCA spans cities or counties (e.g. the County of Santa Barbara’s unincorporated area and the Cities of Santa Barbara, Goleta, and Carpinteria), a JPA must be formed of those cities and counties that desire membership in the CCA. Finally, an implementation plan must be filed with and certified by the CPUC prior to launch. This implementation plan must contain an organizational structure of the program, rate setting and costs to participants, methods for entering into and terminating agreements with other entities, rights and responsibilities of participants, plans for termination of the program, and information about financial, technical, and operational capabilities of third party suppliers of electricity.³⁷

To begin serving customers, the CCA must enter a service agreement with the service area IOU for use of its transmission and distribution system. It must then secure energy supplies, data management, and electricity scheduling services from the IOU. All customers in the service area are automatically opted into the CCA upon its establishment, though the CCA must distribute notices to customers of the change in service and manage any negative declarations or “opt-outs” from customers.³⁸

Though not required by AB 117, CCAs typically also undertake a technical feasibility study. A feasibility study can help communities understand their electricity needs, examine available energy resources and forecast rates, and provide CCAs with useful insights as to

³⁷ Ibid.
³⁸ Ibid.
what programs will be available to them in the short- and long-term. Most of all, feasibility studies are designed to show whether CCA programs will be viable, and whether their electricity rates can be cost-competitive with their area IOU’s rates. Feasibility studies can be undertaken by consultants who simply perform an economic analysis of the program and are paid regardless of their findings; governments may also hire at-risk contractors such that consultants are paid once they develop a workable, feasible program.\(^{39}\) The feasibility study process can be lengthy and expensive. In Santa Barbara, it took over a year to carry out its first $50,000 study (Central Coast Power n.d.). As of new policy, E-4907, implementation plans must be submitted a full year before program launch, causing one- to two- year lags (Villasenor 2018). Still, as more CCAs are established, the time between conception to implementation is decreasing. Lancaster Choice Energy and Peninsula Clean Energy both went from concept to launch in less than two years (Bonson and Brashares 2017). In Santa Barbara, the timeline has been quite drawn out, less because of policy restrictions than because of the deliberate pace of conception and mustering of political will. A timeline with key dates can be found in Figure 5.\(^{40}\) Locally, the push for the CCA came about as part of a groundswell of support from local community groups.\(^{41}\) In 2015, the county government picked up the movement, reached out to surrounding jurisdictions, and brought ten onboard.\(^{42}\) An advisory working group was formed, tasked with overseeing the feasibility study, performing marketing and outreach, and exploring how CCAs were developing across the state.\(^{43}\) This work picks up in June 2017, after the commissioning of the feasibility study with Wildan, but before its presentation to the public.

\(^{39}\) Becker, Chloe. September 8, 2017, (Part I, 16:30).
\(^{40}\) Dates credited to Central Coast Power website (Central Coast Power n.d.).
\(^{41}\) Cregar, Jennifer. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (1:23).
\(^{42}\) Ibid, (1:29).
Figure 5. Community Choice Aggregation Timeline, Santa Barbara County

June 2015
Santa Barbara County Board of Supervisors
Authorizes CCA funding, directs staff to explore regional interest.

May 2016
Tri-County CCA feasibility study commissioned with Wildan.

July 2018
Successful PEA feasibility study presented to SB County and South Coast Cities, who agree to pursue JPA.

January 2021
CCA expected to begin serving customers.

Summer–Fall 2015
San Luis Obispo and Ventura Counties with eight cities commit to contribute to CCA study.

October 2017
Tri-County feasibility study presented to County Board of Supervisors and interested city councils. SB County BOS directs staff to further evaluate CCA options.

January 2018
Feasibility study commissioned with Pacific Energy Advisors.

January 2019
JPA expected to be operational.

43 Ibid, (2:18).
II. Community Choice Aggregation in Santa Barbara County

Community choice aggregation is a socio-technical manifestation that exists in a matrix of institutions, technologies, and values.\textsuperscript{44} It emerges from a set of demands, historically situated in the wake of failed deregulation, designed to address a pastiche of sometimes conflicting substantive commitments. As technical, it may work alongside new alternative technologies in generation, transmission, and storage, which destabilize the natural monopolies enjoyed by utilities for over a hundred years. As social, it exists at the whim of an ungainly regulatory apparatus beholden to IOUs and, aspirationally, to the public. CCA is socio-technical not only ontologically, but because it transforms each element of this matrix and tests the matrix’s total dynamism: as CCAs develop, what new technologies will be available, what institutions will be required to manage them, and what values will CCAs realize and challenge? This work takes the success of CCAs as its “matter of concern” (Latour 2004), and as such directs its search for facts toward those problems that arise with enactment, and that will likely arise with implementation.

The story about CCA is also a story about the infrastructure it could make manifest. Before the rigorous work of constructive critique commences, it is worth dwelling for a moment on infrastructure and the Apollonian (Nietzsche [1872] 2012). In a sense, of course, all infrastructure is Apollonian, reaching for a reality ordered and formal, rational and eutopic. Our best selves. All infrastructure, to the extent that it is planned, plans to create greatness through design. Even the most alienating architectures of the Beaux Arts or the Green Belts of suburbia attempt to cultivate a particular sensibility in the people, to create rational solutions to messy cultural problems. And if no master plan precedes construction, one of two things will happen: if the outcome is good, agency will be conjured post hoc from the chaos;\textsuperscript{45} if the outcome is bad, people will de-agentify themselves and

\textsuperscript{44} Stevens, Brian. May 9, 2018, (20:00).
\textsuperscript{45} As in, for example, the conclusion of Robert Frost’s “The Road Not Taken” (1916).
pretend the whole thing was tragic but mostly inevitable. In the introduction to their work *Communitas*, Paul and Percival Goodman confront the question of why the American imagination has failed to develop these master plans, these creative solutions to problems of infrastructure (1947). Infrastructure, “the heaviest and biggest part of what we experience” is left to experts and planners and speculators, depoliticized and technicized (1947, 3). The Goodmans lament that Americans “seem to be trapped in their present pattern, with no recourse but to complicate present evils by more of the same” (1947, 6). Further still, if someone “plans in a physicianly way to remedy the causes of an ill rather than concentrate on the symptoms, if he proposes a Master Plan to provide for orderly future development, if he suggests an inventive new solution altogether, then he is sure to be called impractical, irresponsible, and perhaps a subversive alien” (1947, 7).

Ultimately, we end up abdicating our own competence. We are deskilled through specialization, overwhelmed by the “sacred cow” of technology, and terrified by the chaos of surplus (1947, 14). Today, we choose our scarcity. We live in the knowledge of more kinds of technology and more modes of governance — in short, more opportunities — than at any moment in human history. The opportunity and challenge of CCA is to bring control over infrastructure back into the light. *We are living in times of great potential*, it says. *Let’s start living like it*. Still, despite the guides, the handbooks, the feasibility studies, the implementation plans and regulations — and despite the powerful corporations and bureaucracies — CCAs are not plans. Instead, they allow us to plan. Consequently, the whole design is breathtakingly open-ended.

AB 117 emerged at a time when the values of Californians were in flux. In the wake of the electricity crisis they wanted reliability and price stability and low rates, but they also wanted alternative energy and resilience. Two processes were identified as to how these goods could be gotten. First, since free market ideologies had survived the rolling blackouts of the electricity crisis, policy-makers identified competition, with aggregation at
community level this time, as a way to ensure public goods at low rates. While the state was keen to return to the monopoly status quo, policymakers also wanted to seed local governments a carve-out so that they could decide to offer their communities choice in procurement. Because in this formulation competition and market sense are seen to resolve environmental problems, we can refer to this discourse underlying the market side of CCAs as eco-modernist. At the same time, community choice held the promise that energy democracy could better speak to substantive commitments. By opening markets and shifting power to public agencies, both free market ideology and energy democracy were expressed in AB 117. CCA advocates thus possess diverse and contradictory aims. In this work, I will demonstrate the extent of these contradictions and argue that moving through them requires a recognition of the serious practical hemorrhages that result from eco-modernist policy constraints. I recommend that actors embrace models of CCA enactment and implementation that emphasize stakeholder participation and are oriented to local environmental and economic resilience through the use of distributed energy resource (DER) infrastructures.

A. Chapter One: The Libertarian Technics of DERs

Community choice aggregation is a political mechanism that shifts energy procurement responsibilities from regulated monopolies to public governing bodies. By establishing democratic procedures, communities can be empowered to pursue substantive commitments that align with the values and priorities of those communities. David Turner of the World Business Academy explained, “CCAs are a tool. It’s a political mechanism to democratize energy.” Once established, CCAs become new sites of energy expertise and sources of public revenue within local governments that can speak to community demands precisely because they are designed to serve local publics. Across California these CCAs have

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46 Cregar, Jennifer. October 6, 2017, (35:00).
created a host of programs to deliver better rates on net-metering, contract for feed-in tariffs, establish electric vehicle charging stations, and electrify municipal bus services. In a word, by enacting an organizational transformation, different energy futures are made possible.

Beyond this diverse suite of programs and offerings, CCAs bear the potential to dramatically remake technology infrastructures that connect end-users to electrical supplies. Perhaps the most important new infrastructural technology made possible by CCAs is a form of local renewable generation referred to as microgrids, or distributed energy resources (DERs). DERs are comprised of three main components, including distributed generation units, energy storage units, and technologies for demand reduction. CCAs enhance organizational opportunities for locales to pursue DERs. As energy democracy scholar-activist Al Weinrub argues, CCAs can promote local energy programs that are difficult to achieve at the state level (2017, 143). Whereas CPUC regulations operate largely through IOUs, CCAs can make substantive commitments to energy efficiency, demand reduction, and renewable generation “above and beyond what the incumbent utility offers” (2017, 143). Moreover, these programs can be tailored to meet the needs of a specific community (2017, 143). In sum, CCAs can encourage the development of microgrids at their own pace and tailored to their local regions.

For some CCA advocates, this connection between DERs and CCAs is central to their mission. As Josh Hudson from the Community Environmental Council remarked, “I always envisioned CCAs as something that would enable microgrids.” With CCAs come local control, as well as a source of revenues that can be used to create new local generation projects. While these opportunities for building assets are not likely to be available in the first months of a CCA’s operation when CCAs tend to focus on being rate competitive with

47 Turner, David. May 7, 2018, (1:00:34).
49 Ibid, (34:52).
IOUs, once CCAs build up reserves, they can use revenues to either reduce rates or engage in local build-out according to the CCA board’s priorities.50

Further, when DERs and microgrids are pursued by CCAs, they can constitute a dual power system standing apart from and even in opposition to the macrogrid operated by IOUs. While taking over procurement responsibilities from IOUs, by default CCAs remain dependent on IOUs for their transmission and distribution infrastructure. This infrastructure is part of a macrogrid, defined by centralized generation facilities located far from sites of end-use, complete with transmission lines that cut precariously across mountains and through chaparral forests. Because microgrids incorporate distribution systems as well as generation systems, they cut into IOUs’ transmission and distribution functions while manifesting an alternative energy framework that places generation close to sites of use.51 In this way, energy infrastructure is decentralized, and more power is put in the hands of the communities that power will serve. The mechanism of this shift is the CCA, which creates the local expertise, the capacity for local ownership, and the local revenues to recreate the grid to serve communities.

To be sure, the relationship between microgrids and CCAs is not clear-cut. DERs and microgrids, as they are sometimes referred to, have also been pursued by IOUs to meet requirements for local resilience. In 2018 Southern California Edison, for example, issued a request for proposals for a microgrid in the Moorpark-Goleta region spanning the South Coast. At the same time, as David Turner of the World Business Academy noted in our interview, whether IOUs’ pursuit of microgrids is a good faith move to secure local resiliency or a tactic to steal the thunder from more robust movements for energy democracy remains an open question. On the other side, CCA formation is no guarantee of local renewable generation, and early years of CCA operation are often marked by the

50 Ibid, (41: 22; 42:05).
procurement of out-of-state resources with little local build-out. These conditions may persist when CCAs are kept anemic, revenue-starved, and heeled by IOUs attempting to retain customers and the CPUC wary of major changes to electricity regulation.

CCAs and DERs do not share a simple relationship, and their connection is mediated by political will and financial opportunities. Still, the relationship between CCAs and DERs is not reducible to the policy maneuvers and asset developments enabled or problematized by CCAs. They bear a deeper connection in that both radically remake the socio-technical world of electricity generation, transmission, and use. CCAs decentralize energy procurement responsibilities and subvert the centralized IOU decision-making model by creating many distributed centers of control. Likewise, DERs challenge the centralized macrogrid and assert in its place an infrastructure borne from the communities they serve.

Community choice aggregation is the socio-political organizational mechanism, and distributed energy resources the techno-infrastructural manifestation, of a system that subverts centralized hierarchies and affirms local resilience.

Distributed energy resources are a libertarian technic (Bookchin 2005), and they constitute the most radical and important possibility for CCAs to pursue. In this section, I will develop a thorough understanding of their significance in the struggle to assert public power organizationally and technologically. This analysis considers both how particular social formations enable the development of certain technological systems, and how those technological systems create and entrench corresponding social formations. The connections between social and technical formations is crucial both to grappling with existing infrastructure and imagining how new social and technical formations can produce liberatory outcomes. This section begins by examining the prevailing energy infrastructure issuing from a set of corporate and governmental institutions, favoring particular technologies, and producing and reproducing a corresponding set of values. These technologies, institutions, and values present important problems for local renewable
generation. In this light, DERs rise to meet those challenges by providing mechanisms to attune to cycles of feast and famine characteristic of decentralized renewable energy. Next, DERs are taken up as an insurrectionary technology that upends grid centralization, which is empowered through the new institution of the CCA, and is capable of reconfiguring the values associated with energy so that they serve community resilience. In a word, CCAs and DERs work dialectically to fashion democratic social organization and technology. This section concludes with an exploration of how this feat of creating an energy infrastructure that serves local resilience may be undertaken strategically.

1. Old Socio-Technics and the Problem with Renewables

As the policy review of this work demonstrates, centralized technological systems were made possible by powerful utilities, entrusted with natural monopolies, and presided over by well-heeled regulatory bodies. This socio-technical formation is embodied by the grid, with its gargantuan power plants and networks of one-way circuitry feeding out to a mass of powerless, or at least power-dependent, consumers. This socio-technical formation, whose chief feature is centralization, has typically fed off of non-renewable sources such as natural gas, nuclear, and large hydro-electric dams. However, the defining feature of this system is not its use of non-renewable energy, but its degree of centralization. Solar and wind farms located in inland California hills and deserts meant to serve densely-populated coastal areas demonstrate how well renewable projects can take the old system in stride without embracing systemic socio-technical change. Just as the technology of non-renewable energy systems did not determine the kinds of institutions that emerged to generate and distribute them, a simple transition toward renewable energy will not deterministically usher forth democratic energy futures. Understanding the old, non-renewable macrogrid as a socio-technical manifestation gives contemporary policymakers and advocates the analytic tools to craft new institutions and technologies that are both democratic and sustainable.
For the past century, the institutions designed to manage and reap the rewards of energy generation, distribution, and use were few and powerful. Investor-owned utilities dominated, spanning tremendous service areas, while they engaged in corporatist arrangements with state-level regulatory bodies. These institutions benefitted from technologies that localized power in the hands of energy producers and could be generated and distributed on massive scales. To this end, non-renewable energy fit the bill. Fossil fuels deliver base load power that can be turned on or off at the whim of its keeper and are capable of releasing tremendous energy precisely when they are burned, nuclear reactors (usually) obey the whims of the plant managers, and insofar as water is plentiful, turbines provide constant power ready to be used at a moment's notice. Because these seemingly boundless — though paradoxically non-renewable — sources of energy allow utilities to meet demand at every second, institutions have been able to capitalize on ever-increasing demand for energy. This demand may be met favorably by burning ever-increasing stores of gas, bursting ever-increasing quantities of uranium, and building ever-increasing numbers of dams. At the same time, contemporary infrastructure is technologically dependent on that demand being met at a moment's notice, and the memory of the 2000-2001 electricity crisis looms large as a warning of the rolling blackouts that may occur in the event of energy shortages. Meanwhile, consumer demand for the constant permanence of energy supplies gives utilities a publicly-acceptable rationale to continuously expand their systems.

The expectation that demand for energy must be met, as though electricity bore an unconscious will toward infinite growth, has become a value unto itself. The will of monopolies to continue to grow, legitimated by the need to meet customers' consumption, is here naturalized. This value of on-demand energy should be understood as emerging through the interaction of centralized institutions bent on growth and technologies that exist at the whim of those institutions. Though consumer demands supposedly fuel the expansion of energy generation, historically, producers of energy have decided when and
how much power will be generated. In the lead-up to the 2000-2001 electricity crisis, energy producers withheld energy to increase the value of their power, culminating in shortages that caused chaos around the state. Still, the fiction that growth in energy generation and use is purely a function of consumer demand allows that growth to be perceived as an unconscious will, its determinism taken at face value.

Centralized institutions that harness on-demand energy technologies to service consumers who value constant permanence pose important problems for the adoption of decentralized renewable generation. The availability of renewable energy depends on natural cycles of wind and sun that do not always correspond with human cycles permitted and promoted by prevailing energy systems. The sun shines during the day, but what use is that when we leave our homes empty to work, and return to use high-powered electronics to prepare meals and entertain ourselves in the evening? The wind blows fiercely through valleys and across plains and out to sea during the shoulder seasons, but what use is that when we power our air conditioning and heating systems in the winter and summer? Intermittency is the bane of renewable energy when our values are bent toward constant permanence. To make renewables work for us, humans would need to attune their cycles to natural systems, to feast when there is plenty and economize in times of famine. In a word, we would have to adapt, humbly, to the offerings of nature.

For those renewable energy supplies that come in cycles, problems of intermittency become problems of curtailment. Joseph Hayes from the International Brotherhood of Electrical Workers explained that while an intermittent system unable to meet demand entails outages, “the opposite also happens.” In these cases, more energy is generated than can be used or stored, so output must be either restricted and reduced or literally wasted, since that power still must go somewhere. In the existing system, California often sells their excess solar at a loss for pennies on the dollar to Arizona. In other cases, “they’ll actually
literally drive it into the ground.” Turner explained that because of the need to curtail, IOUs may shy away from letting more renewables onto their grid to avoid curtailment. This model also has important consequences for use of distributed energy generation, such as rooftop solar. Utilities argue that the technical need for excess solar to go somewhere means that NEM customers must remain connected to the grid. As Hayes elaborated, this framework makes NEM a good deal for utilities. The excess solar “typically goes back to the utility, and you sell it back to them, at a fraction of what they’ll actually turn around and sell it to you for. [...] They’ll actually give you credits for putting electrons back on the grid, but down to the point where your bill hits zero, that’s it. They’re not gonna send you a check.” With storage systems, Hayes noted that power could be dumped into batteries, “but that infrastructure’s not in place yet.”

Insofar as our approach to energy demands constant permanence, local renewables alone cannot address our electricity needs. Contemporary technology offers no iron-clad assurance that demand will be able to be met at every second by renewable energy sources. Thus, as nuclear plants have shuttered across California, gas-fired peaker plants – not renewables – have emerged in their wake. Peaker plants are designed to turn on only when they are needed, such as during emergencies or heatwaves. They do not satisfy base load energy requirements, which in California are still largely met by nuclear, and they are insufficient for meeting local resiliency needs. Because they are designed to satisfy sudden spikes in demand, they are typically gas-fired. Without a better strategy to harness sources of energy like solar, California will continue to rely on carbon-intensive systems.

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53 Ibid, (58:00).
56 Ibid, (58:00).
57 Lewis, Craig. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (52:32).
58 Ibid, (52:54).
According to my participants, California has both not enough solar and too much. Larger-scale renewable operations, particularly those embedded in regional spanning states and time zones, are better able to manage problems of curtailment and intermittency, largely because they are able to centralize generation while distributing electrons across vast networks of demand. But the challenges of curtailment and intermittency, perhaps better framed as the challenges of abiding by non-human cycles, presents an impasse for decentralized renewable energy systems. It is this challenge that distributed energy resources rise to meet.

2. Beyond Curtailment

At present, discourse surrounding renewables has emphasized how renewables present problems of intermittency, where demand is not met by supply, and abundance, where supply supersedes demand. At root, these are problems stem from the current infrastructure’s inability to manage supply. David Turner from the World Business Academy explained, “Until recently, curtailment’s been looked at as just a kind of fact of life.”59 According to the old paradigm, “You sell it or give it away or sometimes you even pay other states to take this energy off your hands. Or you just run it into the ground. You throw it away.”60 Turner concluded, “The way we are right now, when we’re in a period of excess, we throw away clean energy. When we’re in a period of shortage, we burn energy. It is totally back-asswards.”61

Turner proceeded to propose a system that feeds off the feast and famine of energy, asserting, “If you have to curtail, you’re not doing it right.”62 He continued, “Most people’s question is, how do you avoid [curtailment]? And my answer is, you’ve got to design a system that doesn’t just manage excess, but actually plans for it, actually embraces it,

actually wants more of it, feeds off of it. And that’s what we’re advocating for at the World Business Academy.”

This effort entails the development of distributed energy resource (DER) systems. DERs, a more precise though largely synonymous term for microgrids, describe the three-part systems of decentralized energy generation, system balancing, and demand reduction (Weinrub 2017, 145). Decentralized energy generation refers to (typically) renewable generation components, such as photovoltaic solar panels and wind turbines, that can be decentralized. These energy sources can be localized on the scale of a city, a neighborhood, or even a building. System balancing most commonly entails batteries and backfeeding technologies that enable the two-way flow of energy. Demand reduction encompasses a host of technologies and practices ranging from simple conservation to energy efficiency to smart devices that smooth out the peaks and valleys of use. These technologies can attune renewable energy to human demand while enabling their decentralization under community ownership.

The three features of DERs directly challenge the principal characteristics of the macrogrid. First, because they source energy from decentralized generation, they can counter the centralization of the macrogrid, which was made possible by and in turn made possible the vast concentration of wealth in the hands of regulated monopolies. Second, because they use system balancing technologies to capture, store, and distribute energy, they defy the one-way flow of energy that manifested a hierarchy of producer over consumer. And third, because they incorporate demand reduction, they problematize the assumption that demand must be met at every second by creating technological mechanisms whereby end-users can alter consumption according to supply and accommodate energy peaks and valleys (Weinrub 2017, 146). The microgrid is thus an

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64 Lewis, Craig. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (1:35:00).
infrastructural antithesis of the macrogrid that in turn threatens prevailing institutions and the technologies that have enabled their dominance.

As microgrid technologies have advanced and more environmental activists and renewable companies have recognized the potential of battery storage, they have clashed with experts who abide by older ways of thinking. Turner was most strident on this point. He recalled a series of webinars and conversations he had been engaged in at the state level, and he asserted that those who have been in the industry or decades, “are struggling because they’re clinging on to these old ideas about how energy needs to be managed and planned for and things like that.” He mocked, “’Tweak this, tweak that’ – no! You’ve got to burn the whole thing to the ground first!” To move forward with microgrid technologies, Turner insisted, “You’ve gotta, not physically, but conceptually, break the whole thing down, you’ve got to establish a whole new vocabulary, a whole new set of values.” In particular, “policy evolution” would be essential, especially “regulations passed establishing concrete value metrics for all the different types of services.” Here, new value metrics are created when experts assign worth to legitimize new forms of energy management and thus facilitate investment in new technologies. While current value metrics are oriented toward generation, our efforts must be aimed at “avoiding curtailment, being able to collect, store, and distribute energy on-demand.”

Crucial here is Turner’s assertion that even this new energy system must be capable of distributing “energy on-demand.” At heart, the management of energy is concerned with how to turn an energy supply that does not ebb and flow according to social demand into something humans can control. While discussions regarding renewables have emphasized diversity in technologies according to bioregions, where sunny plains are home to solar

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farms and windy valleys host wind turbines. Still, technologies surrounding renewables are developing so that humans may become disconnected from any requirement that we attune ourselves to the offerings of the seasons. Fossil fuel energy constituted of course the most dramatic severance from natural cycles, and pursuing that energy source that took millennia to accumulate has within a few decades brought global ecological catastrophe. Fossil fuels, remarked Turner, are “one hundred percent reserved, stored energy,” and what we are forced to move to now is “a system that’s day-to-day collected, intermittent.” Early concerns about renewable storage struggled to figure out how to deal with daily duck curves and energy storage systems designed to handle “two- or four-hour iterations” and “the late afternoon, early evening spike.” According to Turner, “the truth is, we’ve gotta get beyond that to daily, weekly, monthly storage. We gotta get into seasonal storage.” At the same time, dealing with curtailment means that we have to grapple with constant permanence in a new way. Rather than trying to wring constant permanence out of impermanent systems, a distributed grid is one where we must store and plan in anticipation of impermanence. Not all technologies we develop in the context of energy and renewables mean we are more independent of nature – sometimes it means a refashioning of those relationships along more ecological lines. In the context of DERs, new technologies can mean energy can be more decentralized, and that it can be tailored to the needs of particular communities. In the framework of social ecology, energy systems that enable community control over common resources where production and consumption stay local is the gold standard.

3. The Challenge of Balance

Crucial to overcoming issues with curtailment and intermittency are technologies of system balancing, including the ability for systems to back-feed electricity across the grid.

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71 Ibid.
72 Ibid.
In a word, DERs depend on the grid’s capacity to share energy horizontally across a network. In contrast, the current macrogrid that supplies the South Coast with energy is built to accommodate centralized energy production, which renders local renewable generation technically difficult. Our existing infrastructure, designed according to institutions established one hundred years ago and infrastructure built fifty years ago, is typically comprised of one massive generation source and a series of one-way distribution lines that scale down the voltage as the electricity passes through substations until they reach a small enough voltage that they can be used in commercial and residential facilities. This system “was never intended to have these multiple sources of generation scattered all through the grid that are essentially back-feeding in the opposite direction.” Like curtailment, the issue of back-feeding poses problems for NEM customers. David Turner from the World Business Academy explained that “even if you’re doing just a very small percentage of your total load, [the IOUs] have to run through all these technical assessments to make sure you’re not going to back-feed.” As such, acquiring approval to interconnect to the grid is a long, involved process.

In order to properly accommodate decentralized microgrid energy generation, the grid’s inability to manage back-feeding will have to be addressed. Hayes explained, “In order for [microgrids] to really work well, to be able to feed and back-feed and share loads [...] you’ve gotta have a smart grid. And that means really re-thinking and re-building and re-engineering what’s out there.” Turner described this process of instating a smart grid as “grid modernization.” Grid modernization is intended to “provide the bidirectional flow of electricity and information needed for balancing a decentralized energy system” (Weinrub

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74 Ibid, (53:00).
78 Hayes, Joseph. October 19, 2017, (27:00).
In my conversations with Hayes from the IBEW and Turner from WBA, both spoke to the enormity of the task ahead. Hayes insisted, “You really, you gotta think about the whole system, not just little aspects of the system.” Hayes emphasized that many different kinds of microgrids are possible: “there’s all kinds of different ways to put that together, but it takes a lot of thought, a lot of engineering, a lot of coordination, and a lot of investment.” Grid modernization, which would be crucial to the development of DERs, was more than a simple technology; it would need institutions to bring it to fruition.

Regarding the investment, Hayes and Turner agreed that grid modernization would occur whether a CCA or IOU institution took the lead. Hayes asserted that grid modernization could be a tremendous boon for whoever owned the grid: “If I had that kind of money, I would double-down on that kind of stuff and say, ‘Hey, yeah, my company wants to invest in this because I see that this pays off over time in a big kind of way’.” Tellingly, Hayes concluded his statement, “You know, just like the privately-owned utilities had done decades ago.” Here, Hayes refers to the major investments in infrastructure made by IOUs over the past century. In such cases, IOUs had poured money into public works because they were guaranteed monopolies over those systems, and suffice it to say the resulting infrastructure had been fundamental to IOU dominance over the next hundred years. Turner noted, “The money’s gonna be spent one way or another. And people’ve got a choice. They can either do something about it and do the things that they want, or the decisions are going to be made for them. And we better hope that they like what the decisions are.” Insofar as IOUs control the grid, communities will have to cross their fingers, hoping for decent systems that serve them well. With CCAs, public entities in

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80 Hayes, Joseph. October 19, 2017, (27:00).
81 Ibid, (27:30).
82 Ibid, (27:30).
83 Ibid, (27:30).
California now have a chance to make those investments in infrastructure and fund the development of microgrids so that they can own the power.

If CCAs are able to make those investments in microgrid technology, they will be poised to reap the financial benefits, and they will be able to develop and secure publicly owned energy infrastructure. Advanced system balancing technologies could also make for a more robust CCA. For example, Chloe Becker from the California Alliance for Community Energy argued that the South Coast is poised to combine its renewable resource potential and its need for local storage in the event of storms into a system to finance the CCA. They elaborated, “If our CCA were designed from the get-go to have a ton of storage capacity, [...] the California Independent System Operator could send those electrons our way.”85 In that way, the South Coast “could be taking that excess electricity off their hands instead of having to pay neighboring states to take it, and that certainly would change the economics of our program.”86

In turn, and insofar as CCAs embrace new ways of thinking about curtailment and intermittency, CCAs are likely to more aggressively pursue DER technologies. The technological changes made possible by DERs are at odds with the existing electrical infrastructure and those institutions that have fashioned the macrogrid. Thus, it is little wonder that, for example, the microgrid pursued by SCE in 2018 was unceremoniously shuffled away.87 The tension between old ways and new ways of thinking about renewables has had important consequences for the fight for more renewables in Santa Barbara County. Wildan is the consultant firm behind the first feasibility study for Santa Barbara’s CCA, which has elsewhere been criticized for adopting assumptions typical of an IOU88. Amelia Carr from the Sierra Club criticized Wildan for creating a faulty model based on ways of thinking about procurement typical of IOUs. In reference to a supposed saturation of the

86 Ibid, (Part I, 28:00).
87 Santa Barbara City Council Meeting. Santa Barbara City Hall. July 17, 2018.
solar market, Carr explained, “Wildan said, ‘Oh, that shows that we don’t need any more solar, we’re at maximum solar capacity.’ And that doesn’t mean that at all.” Instead, Carr advocated for storage, as well as balancing solar generation with wind and wave turbines. Carr remarked that, when they had recently put out bids for storage in Aliso Canyon, even SCE was surprised at “the low bids they got, and how quickly they were able to do it.”

Where IOUs and those institutions that have adopted old ways of thinking about renewable energy fail to fully embrace new technologies, CCAs may act as an organizational tool to get DERs that are pursued according to the demands of the community and placed under the community’s control. In this way, CCAs as an organizational mechanism, and DERs as a technological advancement, may together constitute just such a socio-technical insurrection.

4. Decentralization: From Resilience to Reversing Polarity

Building a smart grid capable of feeding and back-feeding and sharing loads not only enables system balancing and makes possible more aggressive transitions to renewables, but it promises to challenge the centralized character of electricity generation and transmission that typifies our present model. In addition to clear environmental benefits, including their ability to manage and increase renewable capacity and increase efficiency in transmission with generation sites closer to end-users, microgrid technologies also make possible a transformation of the social organization of energy production. Microgrids entail decentralized generation such that there could be many producers, and they could be distributed more horizontally. Decentralized generation would enable greater community resilience in the face of natural disasters, but it would also create greater resilience as communities by reversing the polarity of the electricity system and putting power into the

90 Ibid, (39:00; 1:05:30).
hands of consumers. In this way one-time consumers, restricted to the role of *homo economicus*, make decisions irreducible to fears over reliability and price, and thus claim the functions of *homo politicus*.

Distributed energy resources constitute what Murray Bookchin has called a libertarian technic. A *technic* is applied knowledge that shapes the knower and their social context. Technics can be more or less libertarian, more or less authoritarian, and the significant problem of technics is “its ties with the ideals and social structures of freedom” (2005, 326). In a world, how do our technologies make or unmake our freedom? For Bookchin, achieving a *libertarian* technics would reconstitute social and productive relations ecologically to foster consociative interactions (2005, 329). Practically speaking libertarian technics entail decentralized technologies that remain close to local ecosystems and affirm the integrity and resilience of the human community (2005, 347).

A system characterized by distributed generation would ease the precarious energy situations that many communities find themselves in. In my conversation with Turner, he remembered how he first discovered the gravity of Goleta’s resiliency problem, chiefly the precarity of the Edison transmission lines coming over the mountains and the fragility of the Glen Annie substation. He recounted, “I used to run down the back of Glen Annie and think, ‘Oh yeah, there’s the power station,’ and not even think that that is the station. [...] If someone wanted to take down this entire grid, or most of this grid, all they’d have to do is blow up the Glen Annie Station, and that would be it.”

Turner found out about the resiliency problem “on a lark” when he was checking out the CPUC website: “I said, ‘Holy shit, this is like, really bad’.”

Not long before our interview, the residents of the South Coast had encountered the fragility of their energy system with the Thomas Fire in December 2017 and the Montecito

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91 Ibid, (39:00).
93 Ibid, (51:40).
Mudslide in January 2018. These events made brutally clear Lorenzo Kristov’s argument regarding local power, which Turner cited in our interview: that resilience is always local. According to Turner, when the debris flow from the Montecito Mudslide had come down the mountains, it had ruptured the pipes to the local reservoirs. While the facilities were equipped with shut-off valves, Turner explained, “You had to be on-site to manually start them up, to provide energy to start the valve. And it was because of that that they’ve almost lost half the local water.”94 Turner argued that a system capable of employing local distributed generation with storage capacity would have been able to power the emergency shut-off valve, “So when the grid did go out, there would have been on-site generation that would have kicked in, and there would have been no disruption.”95 The lesson from this dramatic example is that, the closer a source of generation is to the end-user, the more resilient each user is in the face of disasters and outages. Moreover, Turner wanted to seize the moment of the Mudslide to create resiliency where it had been lacking before: “We say, this is terrible, it’s a terrible thing, but it opens up an opportunity. I mean, there were areas that were wiped so clean, they had to go back and resurvey to figure out the property lines...What we’re saying is, instead of rebuilding the same thing, and putting back up the same polls, basically replicating, let’s do a microgrid.”96

Resilience is typically understood vis-à-vis threats to precarious power lines, but during our interview, Turner also touched on economic resilience, a theme also explored in Kristov’s work. Here, Turner pointed to the two plants in Oxnard and Camarillo coming offline. He warned, “The polarity is about to switch because they’re going from a place where they were a source of energy sending out, both are going to be gone, and now they’re strictly consumers. They’re relying on transmission of energy from other locations into their

95 Ibid, (32:11).
96 Ibid, (29:34).
location in order to function.” They’re gonna have a revenue problem because any money that’s generated within city boundaries is taxable. So, what I’m telling them is, you might not have the resiliency problem that we have up here. Your problem is economic.” In this way, the development of a local microgrid could help Oxnard and Camarillo generate excess revenue and may even employ more people than a conventional plant, since distributed energy systems often require more maintenance and can thus offer more local jobs.

In turning sites of energy consumption into sites of generation, microgrids foster resilient electrical and economic systems. In this way, microgrids mount a serious challenge to the prevailing grid structure. Beyond the technical problems associated with the existing grid – with its inability to back-feed and share loads and its fragility in the face of natural disasters – there is a more fundamental problem with how power, in the sociological sense, is distributed. Insofar as consumers are separated from energy production, they exist at the whim of energy producers and distributors. According to the old macrogrid, illustrated in Figure 6, power is generated at a single center and distributed down through a chain of substations. Understood hierarchically, the center of power generation is also the top of the power ladder, and all those underneath function at the whim of that center. Technologically and sociologically, this is a precarious system that literally disempowers publics. With a microgrid model, illustrated in Figure 7, the centers become many. These centers are fundamentally different from macrogrid centers in that they are located in the areas they serve, and ownership of those sites of production may be had by the very entities that consume that power. The functions of producer, distributor, and consumer are knit together here. When these functions are brought together locally, it becomes more difficult for the

costs of production to be externalized to other areas, for consumption to outstrip an area’s productive capacities, and for distribution to bear inequalities.

Figure 6. The Macrogrid

A number of positive results issue from this new energy model. These systems will be more resilient to natural disasters, but they will also create tighter economic circles, and revenue generated from these distributed sites will stay in and around these many centers as local labor is both in demand and ready at hand. Moreover, IOUs with their massive centralized systems will be scarce as more of their distribution – not just procurement – functions will be taken over by locally-controlled public agencies more answerable to the communities they serve. Robust decentralized energy systems will become “part of the
general planning process in the resiliency of the community.” Communities will not simply be encouraged to care for their own, but will have the infrastructural capacity to do so.

**Figure 7. The Microgrid**

As the polarity of electricity systems are reversed, and power is vested in decentralized publics, those publics may find new opportunities for standing up and speaking for themselves on matters of energy use. At present, the public has been flattened from *homo politicus* into *homo economicus*, the consumer with their narrowly circumscribed set of possible inclinations effectively reduced to price and quantity. In the discourse of centralized energy, corporations assert that consumers demand electricity at ever-increasing quantities; at the same time, by centering consumer demand, IOUs are able to

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legitimize the continuation of the centralized grid. In reality, it has always been the energy producer, the procurer, and the distributors who make money off of energy sold who have pulled the levers. Meanwhile, *homo economicus* has never been asked what kind of world they want to live in. As one-time consumers are re-agentified through distributed generation siting and public ownership over procurement decisions, both political and economic decisions will be made available. Now IOUs hold publics hostage with the threat of high rates and failures of reliability. Microgrids change the script by putting power into the hands of publics and making them centrally resilient. We need no longer be damsels but heroines.

The real-world success of microgrid technologies and other decentralized energy systems abound. At a talk at the Central Coast Sustainability Summit at UCSB in 2017, Craig Lewis of the Clean Coalition recounted Germany’s tremendous success in powering their country on DERs. In 2002, California had twice as much solar capacity deployed as Germany, but Germans focused on wholesale distributed generation while California emphasized centralized generation and retail distributed generation.\(^{101}\) For the following decade Germany “ran circles around us” and put up ten times more solar than us.\(^ {102}\) In a move promising to those concerned about landscapes blanketed horizon to horizon with solar farms, almost all of Germany’s solar has been constructed on manmade, “built” environments.\(^ {103}\) Further, the projects are mostly small, local operations owned by individuals. Ninety percent of solar projects are built at 1 megawatt or smaller,\(^ {104}\) and over 50% is owned by individuals, with 11% owned by farmers.\(^ {105}\) Finally, Germany pays about half as much for their solar as Californians: given the amount that Germans save on

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\(^ {101}\) Lewis, Craig. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (1:00:40).
\(^ {102}\) Ibid, (1:00:40).
\(^ {103}\) Ibid, (1:01:20).
\(^ {104}\) Ibid, (1:02:00).
\(^ {105}\) Ibid, (1:03:05).
transmission by virtue of their distributed grid, with German efficiency, Californians would be paying around five cents per kilowatt hour.

The German case demonstrates that distributed generation can effectively reverse the polarity of our energy system, placing one-time consumers in positions of ownership over their electrical systems. It would be possible for downtown areas to cover their parking garages with panels, for residences to install panels and become producers for their communities, for cities to lay claim to the real estate on top of big box stores. Essentially, areas that were once energy sinks could become sources, and consumers could become producers. Community choice aggregation is a means to shift political power so that public bodies answerable to local communities are empowered to make decisions to pursue microgrids. While these technologies have been undertaken by IOUs, these programs have historically been weak. Moreover, while DERs owned and operated by IOUs may mark a technological change, they will not bring a change in how energy is managed organizationally. CCAs may also push the development of microgrids by placing experts in microgrid technologies in positions of directing energy policies for the express benefit of publics. In a word, CCAs are a social and organizational tool that can be used to make manifest technologies that refashion energy systems that are democratic and resilient.

5. Technoregions of Insurrection

In his work, Lorenzo Kristov imagines centers of power generation and consumption starting at the level of the building and expanding outwards in concentric circles to involve blocks, neighborhoods, cities, and counties. The state level mostly operates as a way to lock in local advances and to bankroll local operations. Kristov’s model radically conflicts with the typical way that regions are organized politically, where more centralized modes of organization such as federal or state bodies wield sovereign power over broad territories. As

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106 Ibid, (1:02:51).
the literature review of this work has explored, there are important reasons to work toward Kristov’s vision of relocalization. By breaking up centralized power and creating a multitude of horizontally distributed centers, communities are better empowered to participate in their own governance, more able to engage in social experiments to make big changes in small places, and capable of adapting their energy systems to what is locally ready at hand.

In this section, I will explore the promise of relocalizing specifically around the concept of the technoregion and using infrastructure as the units of module, insurrectionary change.

There are many compelling strategies for how to reconstitute the local in a way that does justice to local control. Insofar as participatory governance involves cooperation toward the accomplishment of community goals, having affinity among people within locales is crucial to achieving local democracy. These zones of affinity might be referred to as socio-regions. Elsewhere in the literature, it has become attractive to reimagine location according to bioregion. Locales must consider the availability of natural resources to power their lives efficiently without creating broad networks of exchange that leave them precarious and disempowered, and so there is much to appreciate in the bioregional approach. At the same time, these socio-regions and bioregions rarely correspond to political zones. These politico-regions, defined by legal precedent, ordinances, and political power, both circumscribe action and may be marshaled to address collective concerns. Thus, beyond the obvious problem of how to relocalize against the wishes of centralized powers, another important problem surfaces as politico-regions conflict with socio-regions and bioregions.

At the same time, the existing grid and territorial dominance of utilities requires that we consider the technoregion as an important way that microgrid technologies for decentralization can scale-out. Technoregions refer to areas that are networked by infrastructural technologies, bear their own regional properties, and are more or less autonomous. Like bioregions, technoregions are defined by networks of production,

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107 Ibid, (1:01:40).
distribution, and consumption, and they are shaped around a region’s material properties. Unlike bioregions, technoregions appertain not to the offerings of nature, but to the availability of human-made infrastructure. Technoregions may be defined by cable networks and telephone lines, by dams and irrigation systems, by energy substations and community solar projects. Technoregions can exist under the domain of IOUs, but control over technoregions may also be claimed by local governments and communities.

If our model of change is infrastructural, we would do well to consider infrastructural zones or technoregions as modules for change. Here, the creation of microgrids fitted to existing technoregions can enact infrastructural change by shifting power to communities and dramatically upsetting the centralized power of macrogrids. And because microgrids enable communities and decentralized publics to assert themselves as a multitude of centers, they can manifest a new geography of engagement among those centers by interconnecting and sharing energy horizontally. Where these technoregions overlap, they can support each other; where they touch, they can form interconnections (Kristov 2018). Moving technoregion by technoregion, microgrid technologies can disperse throughout broad networks while maintaining local control, and without ceding resilience to centralized systems. Here, insurrection by technoregion offers a blueprint of socio-technical change antithetical to top-down models that can easily capture centralized regulatory bodies and are not oriented toward the needs of concrete local actors.

To accomplish such infrastructural decentralization, however, and to enact modular change that begins from concrete realities of the existing grid, microgrids must be fitted to existing infrastructure. In this vain, during his presentation, Lewis of the Clean Coalition described how microgrids may be developed locally and packaged into replicable models.

\footnote{Focusing on technoregions as site of change also calls attention to the ways that a variety of infrastructures can be tied together for greater efficiency. In our conversation, Turner emphasized connections between water, transportation, energy, and food waste systems (1:20:50). He offered, “People need to start looking at it in that way, as opposed to keep looking at these things as discrete little separate silos” (1:21:03).}
that might be used in other areas of the grid. Here, the technoregional substation is the principal unit of change. For Lewis, microgrids can target an area of grid, such as a substation within a grid, develop a blueprint, test the model, and spread that blueprint to other substations throughout a territory. At the same time, before microgrids are established, a variety of baseline analyses of energy use must be undertaken, and microgrids will be unique to each area. Further, microgrids must be developed according to the availability of hosting capacity on the grid, and if for example the grid is already saturated with solar, utilities may refuse to interconnect a new microgrid or may “send you a very large bill, and then the economics of the thing won’t work anymore.” Thus, in the model of change that takes the technoregion as the unit of analysis, modular change must occur within certain technical and financial restrictions while also challenging them. In the context of CCAs, microgrids can act as a form of dual power vis-à-vis IOU-owned distribution and transmission infrastructure. Because they create alternative avenues to generate and secure energy without toppling the macrogrid in one fell swoop, microgrids can thus be considered an insurrectionary alternative to IOU grid power.

The insurrectionary model of change, of building the new world in the shell of the old, has special importance in the case of microgrids. Lewis spoke to the Clean Coalition’s involvement with East Bay Community Energy, where the CCA is pursuing DERs sited on city rooftops. Lewis emphasized the potential of siting hundreds of megawatts on “built environments,” so that community microgrids will not take up “greenfield land.” In addition to the clear environmental benefit of siting solar on city rooftops, locating microgrids close to end-use sites will mean greater resilience for the communities they serve. It could also mean that those communities will have greater control over their energy.

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111 Ibid, (1:16:06).
112 Ibid, (57:14).
Such local control over energy requires not simply a change to microgrid technology, but also requires that that energy be held in common, such as by a CCA. Thus, we should be wary of microgrid projects that are owned by IOUs, or which are scaled to cover so vast a region that they do not meaningfully create the possibility for local management. For example, SCE’s request for proposals for a microgrid issued in 2018 was set to cover the area from Moorpark to Goleta, cities that lie over 60 miles apart. Insofar as the capacity for sustained interactions among local actors are an important feature of a locale, the region ranging from Goleta to Moorpark encompasses an area far larger than a locale. Here, the IOU’s definition of a workable technoregion also fatally conflicts with other understandings of the local, such as the socio- or bioregion. To speak to issues of local resilience and community control, the microgrid must be much more distributed and must be owned by communities.

If technoregions are to be an important unit of change, it becomes important to ask more specific questions about how we should define those units and their potential for change. In short, what qualities make a substation a possible site for insurrectionary, modular change? First, crumbling and outdated infrastructure may create pragmatic opportunities for dramatic technoregional change, since infrastructure must be updated regardless of other normative commitments. Recent histories of natural disasters create not only infrastructural gaps in substations, but also political and strategic openings for IOUs eager to protect their image and their ability to secure resilience. More broadly, high demand for resiliency could spur the drive for microgrids in precarious areas. These openings may in turn be seized by groups aimed at more radical futures. Infrastructural affordances may also be created as allied oppositional movements against peaker plants gain traction. From here, technoregions may be constructed to serve communities, but the

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113 Ibid, (57:30).
extent to which DERs can make good on their promise of energy democracy could depend on how DERs are sited and who owns them.

Microgrids open up the possibility for the formation of new technoregions. Existing technoregions were created by IOUs and centralized regulatory bodies, and these technoregions contain far-flung sources of energy generation and sinks of energy consumption. In short, production and consumption of resources were rearranged over massive scales to optimize profits. The technoregion fueled by the Diablo Canyon Nuclear Power Plant dwarfed the size of counties, and the technoregion of the Los Angeles Aqueduct was created by presidential mandate to move resources from the thriving community of Owen’s Valley to turn Los Angeles into a bustling city. But while old technoregions expanded their reach to concentrate power and shift resources, new technoregions defined by microgrids can be built as locally-managed, locally-serving projects. Beyond community choice, it is even foreseeable that neighborhoods could collectively manage their energy production and consumption, trading energy within communities through programs facilitated by Blockchain technologies. Here, isolated nodes in a network are less vulnerable to transmission failures because each node would have access to the means of its own generation. It may behoove communities to develop methods of exchange, as per Kristov’s concentric circles, but these interactions would be secondary to the principal work of self-sufficiency. Moving by technoregion through replication, mimicry, and horizontal interaction, distributed energy resources can become the new technology for our energy future. Local control through community choice aggregation can constitute the organizational mechanism to achieve those aims.

**B. Chapter Two: Contradiction**

Community choice aggregation is a tool that shifts decision-making power from corporations to locally-controlled public agencies capable of building the expertise and
revenues necessary to create decentralized energy systems, which can better ensure local environmental and economic resilience. This new energy system is an important part of the movement for energy democracy. At the same time, CCA policy as outlined in AB 117 bears important conceits to existing regulatory and market frameworks that pose significant problems for the aspirations of energy democracy advocates.

In this work, I understand these problems in terms of a fundamental contradiction between the energy democracy aspirations of CCAs and the eco-modernist burdens embedded in CCA policy. Genealogically, eco-modernism can be understood as an agreement between capital and state actors, both reliant on bureaucratic methods of rationalization, to manifest technocratic solutions to ecological collapse while leaving intact capital and state domination (Scott 1998). In terms of archaeology, or how it exists in the world and how we know it, eco-modernism is a loose discursive bundle of commitments to limit the excesses of anthropogenic ecological calamity, protect existing business interests, minimally impact consumers, and strategically accommodate radical and especially anarchist environmentalisms (Hajer 1995). The basic contradictions between the eco-modernist approach and the energy democracy approach to CCA formation and implementation can be found in Table 2.

Key sites of conflict include methods of increasing clean energy content, the role of publics versus markets in determining program features, acceptable prices for clean and publicly-owned energy, and the future of relations between incumbent IOUs and new CCAs. Here, each consideration when building a program is met with a corresponding structural constraint that favors the eco-modernist approach. To the right can be found alternative energy democracy solutions. In the remainder of this work, I will demonstrate how these structural constraints foreclose aspirations toward energy democracy, especially by limiting the viability of distributed energy resources. Meanwhile, advocates of more ambitious programs that understand local control and public ownership as a path toward
Table 2. Eco-Modernism and Energy Democracy Consideration Matrix

<table>
<thead>
<tr>
<th>Consideration</th>
<th>Eco-Modernist Commitment</th>
<th>Structural Constraint or Condition</th>
<th>Energy Democracy Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>How should the proportion of clean energy be increased?</td>
<td>GHG-free and renewable technologies should be procured at the lowest cost.</td>
<td>Low-cost renewable and GHG-free energy can be had if they are built at large-scales and located far from sites of end-use.</td>
<td>Renewable and GHG-free sources of energy best serve communities and provide for economic resilience when they are generated locally and owned publicly.</td>
</tr>
<tr>
<td>How should publics engage in CCA program development?</td>
<td>Substantive decisions should be determined by “the market.”</td>
<td>It has become politically customary for communities to engage in technical feasibility studies at the beginning of CCA exploration.</td>
<td>Advocates and communities must strategize on program specifics from day one to ensure programs are sustainable and serve the needs of the community.</td>
</tr>
<tr>
<td>How much should communities be asked to pay for clean, publicly-owned power?</td>
<td>Keeping rates low is a top priority so as to minimally impact consumers.</td>
<td>If CCA rates are not competitive, ratepayers may always opt out and remain with incumbent IOUs.</td>
<td>Ratepayers should be understood as community members with a wide array of commitments and concerns, including environmental, social, and economic justice.</td>
</tr>
<tr>
<td>How should CCAs continue to engage with IOUs?</td>
<td>CCAs should engage IOUs as partners to be kept financially viable.</td>
<td>IOUs maintain control of transmission and distribution infrastructure. They also remain providers of last resort, thus offering ratepayers “customer choice.”</td>
<td>Continued engagement with IOUs is a threat to public power, such as when PCIA charges are used to keep CCAs anemic.</td>
</tr>
</tbody>
</table>
environmental concerns strive to carve out a space for more radical futures in a policy framework that is designed against them.

In this analysis, it is not necessary to argue that any particular participant holds eco-modernist tendencies. Even those participants more willing to abide by eco-modernist constraints structured into CCA policy may not necessarily identify as eco-modernists in any appreciable way. Instead, I simply take note of how they respond to those structures that are rooted in eco-modernism, and reflect on the kinds of strategies they use to move through problems as they arise. In this way, eco-modernist policy does not map seamlessly onto actors, though eco-modernist policy finds resonance among some actors and resistance among still more.

The first important contradiction between eco-modernist constraints and energy democracy aspirations is on the very matter of distributed energy resources. Where eco-modernist approaches to energy procurement value renewables at low-cost, energy democracy calls for renewables, but also for an inversion of the existing energy structure to place communities at the center. This aspiration has been fully fleshed out in the first section of this work. At the same time, CCAs confront the structural necessity of keeping rates low to prevent customer opt-outs. Customer opt-outs preserve customer choice, but they also build in a requirement for rate competitiveness between CCAs and IOUs, which presents an important barrier for more expensive, decentralized energy systems. Customer opt-outs, and the structured requirement for low rates, creates a constraint for CCAs that bears a connection to eco-modernism. Here, the suggestion is that consumers should be minimally impacted by the transition to cleaner futures, and that customers should be able to choose among energy procurers. These conceits actually help maintain the dominance of IOUs and thus help preserve existing business interests. In this way, commitment to certain
eco-modernist principles ultimately help IOUs and keep intact the existing centralized macrogrid.

From here, I turn to an analysis of how CCA advocates grapple with these constraints and argue for the development of more comprehensive programs and the creation of new value metrics. Emerging from this discussion is the conviction on the part of energy democracy advocates that when community benefits such as DERs are designed into CCAs from the beginning, communities and stakeholders will support the CCA programs on their own terms and become committed participants in the CCA themselves. In this way, by soliciting active participation, CCA programs can most successfully speak to energy democracy aspirations. These CCA advocates who regard stakeholder participation as fundamental to successful CCA programs tend to work on the “outside” of CCA program design, and they come into conflict with county staff working on the “inside.” These inside actors have elected to begin CCA exploration with a technical feasibility study, rather than with program design pitched at serving local communities and created from the bottom up.

The first technical feasibility study failed to produce favorable results, and the survival of the movement despite those results can be understood in light of the political will of local politicians. The study was conducted by third party consultants whose expertise was regarded as objective because they were precluded from helping to manage the program if and when it launched. In this way, these consultants had no skin in the game as to whether the CCA succeeded or failed. The failure of the first feasibility study to deliver favorable results presents an opportunity to explore the varying strategies that different CCA advocates adopted to move forward on such commitments as clean energy and local control.

Still, because of the political will of some actors, the County voted narrowly to continue to explore developing a CCA program despite the poor results of the study. In the following months, a second feasibility study was commissioned with a new consultant firm that took a less conservative view of program finances and would be allowed to engage in the
management of the program if and when it launched. The case demonstrates a point resonant with the energy democracy framework explored earlier, namely that engagement, commitment, and skin in the game can help foster successful programs. Moreover, this case suggests that a CCA’s best chance of success may lie with those actors who, when faced with roadblocks such as dismal feasibility studies, reaffirm their commitment to local control as the sole guarantor of just and sustainable futures, even if it means breaking with market norms.

At the same time, in the case of neither feasibility study did the study actually manifest expert consensus, and the vote was split between North County (opposed) and South County (in favor) in each case. Following the insights of Sheila Jasanoff, I posit that this failure to arrive at expert consensus may be connected to a lack of meaningful engagement and negotiations between CCA advocates and politicians in North County (Jasanoff 1990). Here, an approach more oriented toward energy democracy, which would emphasize engagement with communities in North County, may have helped win over North County votes through centering negotiation and consensus.

The presentations of and discussions surrounding the first feasibility study made it clear that the unfavorable market conditions that had capsized the study were due in large part to manipulations by incumbent investor-owned utilities. IOUs occupy important positions of power even within CCAs, since under current CCA policy IOUs remain responsible for transmission and distribution, and they remain “providers of last resort” in cases where ratepayers would choose to stay with their incumbent IOU. Both roles are widely considered to be essential to successful CCA operation, but they also dictate that IOUs must be “kept whole” through the imposition of “exit-fees” or power charge indifference adjustment (PCIA) costs. Here, maintaining the financial viability of IOUs jeopardizes the financial feasibility of CCAs and problematizes their pursuit of energy democracy aspirations. Structural constraints brought on by eco-modernist tendencies within CCA policy here take
on an ideological valence that reduces community members to depoliticized consumers of cheap, abundant energy and stunts CCA advocates’ criticisms of IOUs, which in turn may even limit the exploration of more radical solutions to the problem of utility dominance in the form of DERs.

This analysis demonstrates that conceits to customer choice and cost competitiveness that are built into the structure of CCA policy itself serve to undermine the viability of CCA programs and, most importantly, limit the extent to which CCA can engage in local renewable generation. If CCAs are to pursue radical energy system transformations, they must confront the contradictions residing at the core of CCA policy. Still, in Santa Barbara County, there is reason to be hopeful about the future of CCA and ultimately its ability to deliver local renewable generation. The CCA has had robust support from a range of environmental organizations, as well as from the International Brotherhood of Electrical Workers, and there are businesses committed to developing DERs on the South Coast. Further, while political will is split — most importantly between North and South County representatives, but also within each camp — CCA proponents were unfazed by the poor results of the first feasibility study, and CCA detractors remained unswayed by new, more positive results. Moving forward, advocates and strategists may use the case of these two studies as a way to think about what kinds of evidence and what technologies of legibility (Scott 1998) can be effective in forging ahead with programs whose aspirations run amok of narrow policy norms.

C. Chapter Three: Building a Program

In the early days of CCA development in California, CCAs were battered by assaults from IOUs, most of all in PG&E territory. San Joaquin Valley Power Authority didn’t make it, but Marin did. Others joined their ranks, and early successes like the CCAs in Marin, Sonoma, and Lancaster have worked to create a culture of solidarity and mutual aid in the
CCA community. CCAs are a relatively new policy technology, and nascent CCAs are hungry for information and guidance. New CCAs have benefitted from “the pioneers,” as they were referred to by David Turner of World Business Academy, insofar as those first actors laid the foundation of the movement.\textsuperscript{115} Still, in the early days, staying competitive meant fighting like the underdog. Put less charitably, this meant early CCAs had to put some substantive commitments, such as higher renewable content and local projects, on hold while they worked to accrue revenues. In their short history, CCAs have confronted significant roadblocks to securing local clean energy, and they have both garnered criticism and been offered pardon.

Marin Clean Energy in particular has withstood criticism for its use of unbundled renewable energy certificates (RECs), which provide no physical delivery of electricity, but function as credit toward renewable standards on an IOU or CCA’s power content label. In this way, unbundled RECs greenwash power content labels while sourcing from often out-of-state renewable sources that already exist, thus failing to develop new renewable markets. Further, according to Chloe Becker from the California Alliance for Community Energy (CACE), Marin Clean Energy’s carbon footprint was actually bigger than PG&E’s for the first five years of its operation, having contracted with a host of natural gas power plants “just to make money, just to be cheap, make revenues, and then start doing cool stuff and cleaning up their act.”\textsuperscript{116} Becker continued, “There’s all this dark and dirty stuff about what really happens with CCAs. Which honestly really makes me think, is this really what I want to be working on right now? It’s not what we want in Santa Barbara.”\textsuperscript{117} In addition to lack of funds early on, risk aversion has also been an important limiting factor in the development of renewable markets. According to Craig Lewis of the Clean Coalition, most CCAs have started with shorter-term contracts for one to five years because of the risk

\textsuperscript{115} Turner, David. May 7, 2018, (40:36).
\textsuperscript{116} Becker, Chloe. September 8, 2017, (Part II, 0:30).
\textsuperscript{117} Ibid, (Part II, 0:30).
associated with the new enterprises, and for fear of getting locked into bad deals.\textsuperscript{118} Shorter-term contracts, typically for power that is already being produced, have garnered much criticism, since they fail to drive long-term renewable energy development.\textsuperscript{119}

Still, in my conversation with David Turner, he defended Marin and other early CCAs in their use of non-local and non-renewable energy: “You know what, they had to, because — we gotta wheel them a debt. [...] When they started, it was just wilderness, and they had to plow a number of roads on a policy basis.”\textsuperscript{120} Now that Marin and others like Sonoma have accumulated some financial reserves, they have the capacity to engage in local renewables projects and speak to substantive goals.\textsuperscript{121} Lewis argued that these CCAs are now able to reinvest in their communities and work with power developers directly to construct new renewable projects and extend contracts for up to twenty years.\textsuperscript{122} This claim was echoed by Jen Cregar\textsuperscript{123} and Amelia Carr of the Sierra Club, who suggested launching at just a slightly better RPS than an IOU before ramping up their commitments. Once reserve funds have accumulated, “you can start being more aggressive about your renewable portfolio standard, and you have that local control — so at least you’ve got it in place.”\textsuperscript{124} In this way, the trajectory of Marin and Sonoma shows that there is no clear contradiction between the economic viability of CCAs and their ability to procure and develop renewables. Moreover, important strides toward reaching substantive goals have been made by CCAs across the state as CCAs have gained momentum.

However, higher renewable content is not the only goal for CCA advocates. The golden calf for Turner, Becker, and many others who are dedicated to energy decentralization is not

\textsuperscript{118} Lewis, Craig. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (54:00).
\textsuperscript{119} Ibid, (54:00). Cregar, Jennifer. October 6th, 2017, (54:00).
\textsuperscript{120} Turner, David. May 7, 2018, (40:36).
\textsuperscript{122} Lewis, Craig. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (54:00).
\textsuperscript{123} Cregar, Jennifer. October 6, 2017, (54:00).
\textsuperscript{124} Carr, Amelia. September 29, 2017, (46:00).
simply renewable generation – which may be centralized in a manner not unlike conventional generation – but microgrids and distributed energy resources (DER). With these smaller-scale energy resources, contradictions between existing market logics and the aims of CCAs come into conflict. Economies of scale and proclivities for centralization that are built into the way energy projects are financed mean that decentralized energy systems tend to be much more expensive than centralized energy. Under CCA policy, CCAs are constrained to always pursue cheaper options, since ratepayers can always opt out of CCAs and remain with incumbent utilities who might offer cheaper rates. The requirement that CCA customers be allowed to choose their energy procurer thus becomes an imperative to chase low rates, which stacks the deck both in favor of IOUs and centralized energy systems. In this way, conflicts between energy democracy proponents and constraints emerging out of eco-modernist policy are not purely ideological, but are baked into CCA policy.

The struggle for CCAs to develop DERs points to a broader contradiction between (a) eco-modernist frames of cost-savings, customer choice, and competitive rates and (b) energy democracy calls for public power and local renewable generation. CCA policy was developed and achieved by both sets of advocates, and today these advocates clash over what strategies can best provide for a successful program. For advocates of cost-savings and rate competitiveness, programs should start modestly and add on programs as they build reserves, while always fundamentally pitching to the bottom line and presuming that consumers’ principal interest lies in securing cheap, abundant energy. Those who favor energy democracy argue that successful programs that are truly participatory and democratic will require community buy-in, and as such programs should emphasize local power and local jobs from day one; on the way, third party consultants and contractors should have skin in the game. Commitment and political will are paramount. While Turner defended early CCAs’ use of non-local energy, he argued, “CCAs need to go to school on that, they need to learn the lessons that Marin and Sonoma have gone through by practice,
not by trial and error, but just had to deal with, practically, and start from there, not back there at the beginning.”

Turner’s point is that the assumptions made by Marin and Sonoma — about tabling DERs to tighten their belts — need not be swallowed wholesale anymore. In CCA advocacy, the gulf between proponents of energy democracy working on the “outside” and those cleaving closer to eco-modernist constraints on the “inside” becomes the difference between participatory models of strategic planning and pursuing narrowly construed “objective” technical feasibility studies, which are not even required by AB 117. The tensions and debates among these different actors are explored here.

1. Attracting Finance

In their short history, CCAs have yet to deliver on some of their substantive commitments to local renewable generation. In his 2017 work on CCAs, Samuel Jung states that, “operational CCAs have been unable to implement strategies that meaningfully utilize the form and capacities of community choice aggregators to effectively generate jobs for local communities within their service territories” (2017, 41). One important reason that CCAs seek large-scale private developers over these smaller, local projects is that energy generated and procured locally and on a small-scale has unattractive load profiles, which make smaller projects more expensive. The existing economic development model privileges larger-scale projects, undertaken with private developers, over decentralized, community-owned renewables (Jung 2017). In assessing the viability of developing DERs in the CCA framework, a crucial question is, should this failure to build small-scale local renewable generation be understood as an early-year problem associated with underdeveloped programs, or is DER development constrained by fundamentals of the existing energy market? Here, I argue that this failure to build small-scale projects locally is irreducible to risk aversion characteristic of early-year operation. Instead, CCA policy all but

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125 Turner, David. May 7, 2018, (41:13).
guarantees that low rates will be chosen over local renewable energy, since costly programs may be infeasible as CCAs fight to remain cost-competitive with IOUs.

In much of the discourse surrounding CCAs and DERs, contradictions between current market norms and some advocates’ ideals of small-scale, decentralized energy are shuffled away in favor of a more harmonious account. During his presentation at the Central Coast Sustainability Summit, Craig Lewis of the Clean Coalition made a compelling argument for community microgrids. For Lewis, community microgrids have three goals: economics, resilience, and environment. Lewis remarked that, on the economics side, electricity is a six trillion dollar annual market, so the first ones to make the transition would be huge. Further, energy independence would mean the U.S. no longer has to be embroiled in foreign wars, so microgrids have relevance for “national security,” as well. Regarding resiliency, microgrids are designed to provide and generate power locally, so areas like the South Coast need not fear weather events and fires that threaten the precarious power lines that connect us to the macrogrid. Concerning the environmental aspect of microgrids, “that’s easy.”

This comprehensive picture is immediately appealing, but does not necessarily stand up to scrutiny. The first question from the audience at Lewis’s talk at the Sustainability Summit was from David Turner at the World Business Academy. He began, “I wanna approach the ‘community’ side of the term ‘community microgrid’ and ask you, can you speak to the values of being able to analyze a particular area, being able to develop a coherent strategy and get community buy-in. [...] How do you see that being part of the community microgrid?” From my position in the audience, Turner’s tone had been more confrontational than I had expected. While the conflict between Turner and Lewis was not altogether intelligible to me at the time, it was clear that Turner was worried about the

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126 Lewis, Craig. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (50:55).
community component of distributed energy resources getting boxed out in favor of other commitments to competitive pricing.

Lewis was cagey in his response. “Yeah, thanks for your question, Dave.” Lewis elaborated that, as for the economic, environmental, and resiliency opportunities manifested in DERs, it would be up to communities to decide how those aims were prioritized. Earlier in his presentation, Lewis had lauded the German model of small-scale renewable generation, but suddenly now Lewis began to walk back his claims about such projects’ financial viability. “Economies of scale are real,” he argued, asserting that 100 megawatt projects are more efficient than 10 megawatt projects. He concluded that larger projects meant better deals from developers, which meant savings for customers. Lewis’s point was that despite some actors’ commitment to resilience and local generation, smaller projects are harder to finance. More expensive local renewable generation would have to be weighed against cost-savings, and the comparison would likely be unfavorable.

Turner responded by pinning his concern for community ownership over energy and energy decisions to a recent upset in the local South Coast energy community. Southern California Edison had initiated a request for proposals (RFP) earlier in the year, but it had been suspended pending resolution of the issue of government participation in the bidding. Turner was troubled that SCE had moved the RFP through its bidding phase and suspended it without opening the matter to the community. According to Turner, the approach of SCE had been both too opaque and too hasty. Against the opacity of the SCE

133 Ibid, (1:25:00).
134 Ibid, (1:25:56). Speaking of this Moorpark-Goleta RFP, Brian Stevens remarked, “I think the timeline that Edison had is kinda tough, I think the CPUC frankly ate up a bunch of the time that they had […] but getting all the good RFP responses by June was pretty much impossible for a local government, and they just can’t move that fast” (May 9th, 2018, [1:38:57]). I asked if it was designed to fail, he hesitated, unconvinced, but said, “There may have been some benign neglect there […] Uhh, okay, this is the way the CPUC lets us play the hand, so let’s play the hand, so we’ll play the hand, and we won’t get what we need, we really wanted to just build a natural gas plant for back-up
RFP process, Turner advocated for a community-centered approach: “By bringing the community into the conversation earlier, by determining, how does the community wanna develop these things, and bringing stakeholders like commercial-industrial owners, schools, government properties, and developing a plan, you can kind of approach it in a much more strategic fashion.” SCE’s RFP process had also been too hands-off when it came to community involvement: “Basically, Southern California Edison says, we need 100 megawatts of capacity, however you get it, and then they give you a slate of form agreements, and then they just kinda let things go.” In sum, where SCE had left program design to the bidders, Turner’s ideal of community-mindedness required strategizing among local advocates and stakeholders.

In response, Lewis attempted to defend a focus on rate competitiveness as an important community value. The Clean Coalition has done work supporting East Bay Community Energy, the poster-child for CCA energy democracy in California, and Lewis was ready to bring that to bear. The local development program there had been “very much community-driven,” but “what’s happened is, a lot of what Jen [Cregar] talked about where the cost realities come into play, right? Local is more expensive.” By invoking Cregar, the County lead on the CCA, Lewis brought the issue home and implied that, here, too, local renewable generation was out of reach. It simply cost too much. And the demand for cost competitiveness is built into CCA policy: “if you do not beat the incumbent utilities’ price, you will not have enough subscribers to make the economics work, and you will not continue on as a CCA.” Lewis concluded, “It’s just a fact of the matter. And so, you’ve just gotta work your economics out as best you can while maximizing the goals of whatever it is purposes and be done with it” (May 9, 2018, [1:39:32]).

Ibid, (1:27:00).
Ibid, (1:27:00).
you’re trying to accomplish.” In matters of public concern, then, other priorities could be considered, but cost competitiveness would eat first.

Within the current financial framework sketched out by Craig Lewis, what kind of decentralization is conceivable for CCAs that desire not just renewable energy, but local energy that they have some control over? The next questioner put the matter this way: what scale does solar need to be for it to be economically competitive? Lewis responded that a 1 megawatt project can attract good deals from developers and competitive financing from financiers. “There are lots of financiers,” he warned, “who won’t be interested unless it’s, like, $50 million of total investment required, so that comes out to 25 megawatt scale.”

Smaller investments are, “just way too much a pain in the butt” if an investor is looking to invest a billion dollars. The questioner confirmed, stating that Wells Fargo hadn’t wanted “to look at anything smaller than 1 megawatt.” Over the course of Lewis’s presentation, the promise of local renewable generation, even with the organizational technologies of CCAs, had been narrowed and all but closed off as a financial possibility. What then was left of community energy?

2. Markets Over Interests

While those who were currently employed in energy systems management and institutional green groups typically presented their objectives as a balance between rate competitiveness and environmental and community outcomes, I found a more candid proponent of cost-savings in Brian Stevens, Santa Barbara’s most ardent layperson supporter of CCAs. I’d seen him at Clean Energy Meetings, at summits, and at every important city and county meeting held on the CCA. He always gave public comment, which was always articulate and strategic, and he spoke with the assuredness of an expert ready to

\[\text{139} \text{ Ibid, (1:28:54).} \]
\[\text{140} \text{ Ibid, (1:29:00).} \]
\[\text{141} \text{ Ibid, (1:29:40).} \]
throw his hat in the ring one more time before finally learning to enjoy his retirement. All I knew about him prior to our interview was that he had worked in the energy industry. I soon learned that he had worked for the Federal Energy Regulatory Commission (FERC), for the American Public Power Association (APPA), and had conducted research on India’s electrical grid on a Fulbright Scholarship. In our conversation, Stevens presented a viewpoint of energy systems management that, through its focus on rate competitiveness, ultimately both reduced the more holistic community demands championed by energy democracy advocates to simple consumer interests in low rates and diminished the role of deliberative politics in energy decision-making. In this way, Stevens’s candid defense of the eco-modernist constraints of CCA policy dramatized the impact such constraints can have on the energy democracy aspirations of CCAs.

Like Craig Lewis, Stevens was dedicated to CCAs, but also understood that current market mechanisms were not designed to accommodate DERs. While renewables can be fitted into a market framework, decentralized, small-scale energy projects that are more difficult to finance pose serious problems to the economic feasibility of CCAs. Totally decentralized, local generation would be possible with Tesla batteries and solar, according to Stevens, “if everyone wanted to pay $60 a megawatt hour.” Such rates would be unthinkable under any framework, and patently infeasible under CCA policy. Lewis advocated for balancing substantive commitments to local renewable generation with rate competitiveness, which ultimately balanced DERs out of existence; Stevens went further in advocating that the free market should determine our energy supplies. Here, Stevens’s principal criticism of California’s energy system was its blindness to the limitations of the market and its dogged determination to find workarounds through regulation. For Stevens, the “Big Mistake” with California energy policy was

142 Ibid, (1:29:40).
143 Ibid, (1:33:33).
144 Stevens, Brian. May 9, 2018, (23:10).
California’s belief in its uniqueness....That we’re all so very smart, that we can figure out whatever social problem that is out there, and we identify it, and then we put together a task force of really smart guys and gals, get together and go analyze it, and then it gets some political attention, so some politicians get involved, and then the government forms this task force, and then they analyze the problem with a 178-page report with 700 pages of appendixes and then they analyze every single part of it, and then they go to meetings and negotiate the outcome, and all the stakeholders get involved, and each of the stakeholder groups get what they all need.\textsuperscript{145}

In this attempt to get local generation \textit{and} renewable power by creating the perfect solution, Stevens argued that regulatory bodies such as the CPUC had created a clunky system that drives prices up by destroying opportunities for competition. For example, when regulations call for RPS in addition to incentive programs to spur in-state generation \textit{and} prices on carbon, which ultimately narrowly circumscribe procurement requirements, “you don’t have the ability to negotiate, which results in higher costs.”\textsuperscript{146} A much more efficient system would entail simply setting a price on carbon.\textsuperscript{147} By designing markets well in this way, goals can be reached efficiently without the burdens of regulatory mandates. Stevens maintained, “You want to let the market go.”\textsuperscript{148}

There are important critiques of regulation, just some of which have been taken up in this work. Still, Stevens’s criticism of regulation begins with an argument against inefficiency, but slips into an argument against advocacy itself. Not only would competitive markets allocate capital more efficiently and “produce better outcomes,” but hands-off management would also “overcome the political power people have” to influence decision-making for their own benefit.\textsuperscript{149} For Stevens, “the state oughta be agnostic on technology. Tell the utilities, go figure that out. They’re in the business of doing it.”\textsuperscript{150} Here, markets and their apparently objective proponents in government are used to argue against the formation of political demands. Speaking elsewhere of unions’ interest in solar as a source

\textsuperscript{145} Ibid, (21:58).
\textsuperscript{146} Ibid, (1:11:10).
\textsuperscript{147} Ibid, (1:18:42).
\textsuperscript{148} Ibid, (24:16).
\textsuperscript{149} Ibid, (24:16).
\textsuperscript{150} Ibid, (1:05:00).
of new jobs, Stevens allows, “That’s okay, they’re an advocate. But the role of the political system should be to moderate those views, and not let them rule. Because sometimes you’re missing out on buying much cheaper power from out of state.”\footnote{Ibid, (1:06:09).} In a word, by Stevens’s account, it’s worth setting aside union demands to pursue lower rates. Further, political systems should be empowered to make sure those lower rates are secured by moderating the interests of stakeholders. But while Stevens does not take at face value the interests of union workers, he takes for granted the generalized consumer’s interest in low cost energy, which in his eyes governing bodies should be determined to protect. Through the course of our conversation, it became clear that regulation was bad principally because it could not guarantee the lowest prices.

Stevens’s focus on securing low rates is interesting for two reasons. First, there is an assumption undergirding his argument that the cost of energy is too high, or is bound to become too high with too many interested parties at the table. The question of whether energy is too expensive is an empirical question, and would be discernible if, for example, demand dipped or energy costs could be connected to increased precarity. These indicators of too-high cost are neither immediately clear nor presented in a systematic fashion.

Second, Stevens legitimized his dedication to cost-savings by appealing to ratepayers’ apparently universal interest in low rates. This is indeed a bizarre twist on the Marxian concept of the universal class of the proletariat: in this reformulation, it is not the worker but the consumer who is made universal, and with that all interests are flattened to those of *homo economicus*. Stevens drives his point home by arguing that, “the money that you put in the union job family is money that somebody in Imperial Valley has to pay. And the working man who farms in Imperial Valley makes a lot less money than union workers in the bay area.”\footnote{Ibid, (1:06:53).} Of course, the wage of a union worker does not singularly determine the
cost of energy, which is in truth mediated by a variety of factors. But this simplification is useful, since it allows advocates to argue for cheap energy not on behalf of the corporation, but on behalf of the working person themself.

Indeed, the public can be interested, and can have more complex demands than for cost-savings. But Stevens does not present a governing structure capable of hearing and speaking to those more complex demands. Stevens favors CCAs governed by representatives from participating jurisdictions, with a few independent board members (“people like me, who know something about it and have opinions”) representatives from the environmental community, and “stakeholders who speak to the needs of the poor.”\(^{153}\) In sum, “You want a board that’s responsive to the community, but also looks at CCA as a business, as a public enterprise.”\(^{154}\) But beyond these stakeholders, politics should be kept out as much as possible. The Board should be realistic and clear in its goals above all else, giving managers responsibility and leeway without interfering in the day-to-day of CCA operations.\(^{155}\)

The political system tasked with overseeing energy markets is here designed to “moderate” among various commitments. However, the purpose of this “umpire” model of governance is not to provide a platform for people to fight for livable worlds, but to manage the popular will and train it to the bottom line, if within certain environmental limits (Barandiárán 2018). Stevens urges the creation of political systems such that advocates “can be honest with officials so they’re not pushed into making promises they ultimately can’t keep.”\(^{156}\) Presenting the problem in this way, Stevens suggests that the problem with regulation is a problem of too much democracy without enough accountability, of a government that is so by the people that it fails to be for the people — a government that is too responsive to popular demand. To most who have experience advocating for particular substantive demands before representatives, this suggestion does not paint a legible portrait

\(^{153}\) Ibid, (1:45:52).
\(^{154}\) Ibid, (1:46:38).
\(^{155}\) Ibid, (1:47:57).
of the relationship between social body and representative. Even when much is promised
during campaign seasons, or even enacted as policy, outcomes and implementation often
fall short of public demand (Bättig and Bernauer 2009).

At the same time, Stevens understands the importance of local accountability in the
effective operation of utilities. Speaking of his time working for municipal utilities, he
remarked,

I used to joke in my speeches, they had to be responsible to the community because
the general manager goes to the Kiwanis Club and the same Methodist or Catholic
Church as everybody else, and if the rates go up or the lights go out, he’s hearing it in
the aisle when he goes to pick up milk at the store. It creates a level of
responsiveness within small communities that I think is really important.157

Still, in Stevens’s example the local public interest is quite flat: keep the power on, and keep
the rates low. The range of public interests here is limited to reliability and cost-savings.
The presumption is that the public is simply a collection of consumers, capable of and well-
suited to oversight, but not disposed toward engagement in pursuit of substantive concerns.
Insofar as CCAs are able to weigh priorities, Stevens does recognize that they “can weigh the
advantages of local jobs and local facilities versus exporting it from elsewhere.”158 And while
Stevens rejects rooftop solar for violating economies of scale,159 he does regard community
solar as “a good trade” of cost-savings for good-feelings.160 Still, Stevens was quick to point
out how much cheaper building in solar elsewhere in the desert would be. He also
advocated for the creation of national energy markets, against the demands of unions and
solar companies, saying “that would save you some money.”161 The suggestion that local
control could be used to legitimize energy development elsewhere betrays the fundamental
normative commitment of local control: that we should have the ability to participate in

156 Ibid, (23:37).
159 Ibid, (1:35:20).
those decisions that affect and create us. Local control has undermined its purpose when it is used to legitimize trans-spatial reach for the externalization of social bads. Here, Stevens uses narratives of local control to actually circumvent interested engagement while paying lip service to local accountability.

In this framing, the benefit of local control is not to create avenues for popular participation in decision-making. Instead, local control allows companies to move procurement into deregulated terrain where demands are simple. According to Stevens, CCAs will not necessarily have to go through the same approval processes at the CPUC for new projects, and in general oversight at the level of local government can be more nimble than regulation at the state level. In a word, Stevens is not concerned with local control and democracy as a process, but as a way to more quickly achieve goals determined outside of democratic deliberation. And in this way, Stevens’s approach to governance aligns with his preference for goal-setting over mandates. Mandates are too hands-on, and they are designed to speak to certain particular interests, rather than the apparently universal good of cost-savings. At one point, Stevens elaborated a criticism of RPS, which he claimed is biased toward in-state renewables and excludes nuclear power for the benefit of narrow interests. He asked, “Is your goal environmental, or is it to promote rooftop solar?” In this statement, Stevens demands a choice between environmental goals and small-scale renewables, thus demonstrating an inability to juggle more than one substantive commitment beyond the bottom line. Stevens’s eco-modernist stance vis-à-vis market solutions to environmental and socio-technical conundrums is to seek low prices with a light touch. This perspective is fundamentally at odds with the interested-stakeholder, participatory model of energy governance central to energy democracy.

164 Ibid, (1:04:01).
165 Ibid, (1:05:16).
Concluding my conversation with Stevens, it was difficult to pin down what about CCAs piqued his interest and kept him coming back to county and city meetings month after month. He was retired. Regarding his continued engagement with energy policy, he offered, “I’d just like to see this succeed. I’d like to see it happen because, like I said, I think the CCA could be a platform for doing what Santa Barbara wants to do, which is to push the envelope on progressive solutions.”166 Throughout our interview, Stevens had tempered all talk of progressive solutions, advocating narrow, achievable goals. Who then could weigh in on these progressive solutions, and what kinds of progressive solutions were available?

He finished, “Nobody lives in Santa Barbara — unless your company moves you here — but you move here for the amenities, for what it is, and so...And that’s what I’m interested in. I want to make it even better.”167 For Stevens, then, these progressive solutions — namely, large-scale renewables at affordable prices — were amenities, were consumer goods, were things to draw transplants like himself to the community, rather than to provide for the community that already lives and works here. As such, I was skeptical as to how energy-as-amenity could speak to an energy democracy framework that emphasizes participation and a genuine shift in power to address inequalities. For those models of an energy future, I would have to look to a different model of CCA.

3. Designed for Success: Building Energy Democracy from the Ground Up

For all Stevens’s consideration of cost-savings and his framing of environmental concerns as “amenities,” he did recognize that CCA programs would have to offer more than cost-savings to remain competitive against IOUs. In fact, Stevens did not imagine it likely that CCAs could compete in terms of pricing with IOUs, and he cautioned against over-promising on cost-savings.168 As more of California turns over to the CCA model, he

166 Ibid, (1:50:12).
168 Ibid, (43:00).
predicted CCAs’ ability to secure deals would become more competitive.\textsuperscript{169} This would be doubly true insofar as the CPUC held them to the same regulatory regime as IOUs, which are larger than CCAs and have teams of brilliant strategists and decades of experience with regulators.\textsuperscript{170} For Stevens, CCAs’ competitive edge would have to come from their connection to the community and their focus on community goals. More broadly, CCAs could help cultivate “a local infrastructure of engineering expertise and cash flow from the energy side that you can use to accomplish these broader goals”\textsuperscript{171} such as electrification of transportation.\textsuperscript{172} CCAs would thus endow the community with the capacity to take up a new set of problems and solutions. The benefit of CCAs would extend beyond the electron-as-commodity, in fact constituting an important expansion of community power: “If you’re just competing based on the commodity, which is renewable energy, where’s that competitive advantage?”\textsuperscript{173} There is much in Stevens’s analysis that conflicts with energy democracy frameworks: he tends to view community members as simply consumers searching for cheap amenities, and he does not appear to be interested in community engagement with energy decision-making. Still, he demonstrates that, even from a largely eco-modernist perspective, it can be strategically useful to build complex CCA programs that speak to equally complex community concerns. The benefits of CCAs are for Stevens framed as amenities; in the energy democracy framework, these benefits are an issue of justice. Local generation, with local jobs, local control, and clean futures are not amenities, but essential should CCAs hope to give communities good reason to become active in repoliticizing energy.

Stevens’s fundamental point about CCAs and how they must shape their goals to remain competitive against IOUs has much in common with energy democracy approaches outlined

\textsuperscript{169} Ibid, (44:01).
\textsuperscript{170} Ibid, (1:13:08).
\textsuperscript{171} Ibid, (1:14:37).
\textsuperscript{172} Ibid, (1:14:22).
\textsuperscript{173} Ibid, (1:14:50).
by Chloe Becker, David Turner, and scholars like Al Weinrub and Denise Fairchild. In essence, Stevens argues that CCAs must become more than procurers of energy; they must engage in a broad range of community works and in so doing accumulate expertise on the local level that can catalyze progressively more ambitious works. In the discourse coming from CCA advocates aligned with energy democracy, this distinction between the limited goals of CCAs, particularly in their start-up years, and those of more ambitious and networked programs is referred to as a distinction between CCA 1.0 and CCA 2.0 (Weinrub 2017). CCA 1.0 is typified by the early business models of Marin and Sonoma. CCA 2.0 refers to the integrated, strategic planning that moves beyond oversight to engagement. Advocates of energy democracy maintain that CCA 2.0 can make just as much market sense as CCA 1.0, since, with Stevens, it can be strategic to develop programs that go above and beyond IOU functions. The main interest in CCA 2.0, however, is to build local buy-in for public power so that communities can be engaged in the energy decisions that affect the local production, distribution, and consumption of energy.

Examining other CCAs’ histories demonstrates that commitment to a range of social goods can make for more robust programs. The case of San Joaquin Valley Power Authority (SJVPA) illustrates how programs that are not designed to speak to a range of social goods can flag. Emerging alongside Marin Clean Energy (MCE), SJVPA ultimately suspended their CCA plan due to market conditions, not to mention a vicious campaign leveled against CCAs by PG&E (Faulkner 2010, 13). In her work, Faulkner suggests that, “unlike [MCE], using more renewable electricity was not a priority for SJVPA. This ideological difference was possibly an important reason why [MCE] succeeded and SJVPA did not” (2010, 13). While Faulkner does not develop this point further, having a substantive commitment to social goods such as renewables might improve the chances that a JPA will pursue CCA programs even in the face of economic adversity.
Lack of public engagement could also explain under what circumstances CCAs that do get off the ground fail to meet substantive commitments. In the case of Marin, Chloe Becker suggested that Marin’s early failure to deliver either more renewables or local generation went hand in hand with a failure to enable community oversight. Regarding the report that Marin had increased its carbon footprint in the early days of its operation, Becker revealed, “it took a friend of mine who’s a utility genius, who has actually been a power manager, to uncover this. He had to dig into this on his own, that’s not —.” Becker stopped, before asserting, “We need a transparent program where they have to post on the website, like, where is the electricity coming from, you know what I mean?”\textsuperscript{174} Becker’s implication here was that transparency would have to be a precondition of rigorous programming, and that engagement can help ensure that a CCA will remain dedicated to their substantive commitments to local and renewable energy.

Political will can also help CCAs move toward their goals even despite market challenges. According to Mary Romano of Lancaster Choice Energy (LCE), the program’s feasibility study “was a little darker than what [their] actual numbers were.”\textsuperscript{175} Their feasibility study had used what turned out to be conservative estimates, and the program was projected to lose money in the first years. Still, because it forecasted long-term success, Romano said, “we took that chance anyway. And it turns out, that never came to fruition. We were in the black all the time.”\textsuperscript{176} In this case at least, the political will rested firmly in the hands of the city’s dictatorial mayor, who is well-known throughout the region for pushing through initiatives with little thought to political repercussions. LCE’s procurement is managed out-of-house and far from public scrutiny, and so their determination to move through risk may be due to autocratic governance rather than popular dedication to the

\textsuperscript{174} Becker, Chloe. September 8, 2017, (Part II, 1:00).
\textsuperscript{175} Romano, Mary. September 20, 2017, (19:00).
\textsuperscript{176} Ibid, (19:30).
cause of local renewable generation. Still, Lancaster’s case demonstrates how market logics need not rule the day.

Chloe Becker was principally dedicated to manifesting a strategic plan that could lead Santa Barbara to establish a CCA fully fitted with local generation and programs responsive to social justice. To this end, East Bay Community Energy offered a promising example by committing to build $500,000 of local renewable generation in their original business plan. This would create local jobs and community benefits associated with keeping revenues local. “That’s best practice,” they concluded. From here, Becker elaborated on the difference between CCA 1.0 and CCA 2.0:

There’s one camp of CCAs in the state that are like what I described, they think, or, you know they’ll tell you: step one, get your CCA started, make a bunch of money, and then start doing cool stuff, right. Then there’s the other camp, that’s like, no, you have to start from day one, with all of your goals lined up, your commitments to environmental justice, your commitment to local jobs and, you know, really set the bar high from day one. And so I’d say, I think we’re going to see that same tension mirrored here locally, right?

According to Becker, actors on the outside like herself have advocated the second, allegedly more sophisticated approach, whereas those who have been leading the charge on the inside have advocated the more conservative approach. Unfortunately, it was these inside actors “who got to talk to the decision-makers directly, and meet with the staffers directly,” while the outside actors worked to drum up public support. Becker conveyed their frustration: “The whole time I was like – ergh! – because I come at this from a local benefits perspective, and I just had this feeling the whole time, like, no, we need to be more sophisticated here. We can't just follow Marin's footsteps, and it turns out it was probably true.” At the time of our conversation, the results of the first, failed, feasibility study were

\[\text{footnotes}\]

177 Becker, Chloe. September 8, 2017, (Part I, 13:00).
178 Ibid, (Part I, 13:00).
180 Ibid, (Part I, 38:00).
182 Ibid, (Part I, 38:45).
known to certain actors, but not yet to me. Still, Becker was hopeful, and certainly not willing to cede the local build-out position.

4. Strategies Inside and Outside

The split between advocates who are willing to make concessions to the eco-modernist constraints of CCA policy and those who are dedicated the energy democracy and CCA 2.0 is reflected in the divide between “outsiders” and “insiders” in the conversations surrounding the CCA in Santa Barbara. Throughout our conversation, Becker had expressed frustration at not being heard at meetings with staffers and insiders. “It has not been run as a really collaborative process at all. It’s been point people from each jurisdiction meeting in private, updating the community every once in a while about high-level changes. [...] There hasn’t really been an invitation to offer ideas.”183 This lack of communication seemed particularly vexing for Becker, since she, along with Amelia Carr from the Sierra Club and others, had been pushing for the CCA feasibility study since the beginning. CCA advocacy had in part grown out of the defeat of Measure P, a county-wide anti-fracking ballot measure that had failed in 2014 and that Becker had been instrumental in championing. Becker framed the CCA movement as emerging from the momentum of that movement, and the feasibility study “was perceived to be the first step.”184

Becker’s intention in advocating for the feasibility study, which was not a legal requirement as per AB 117, had not been to reduce the program to its economic feasibility. Still, it had resulted in a kind of siloing of insider and outsider advocates. Becker clarified, “I think there was just hope that the feasibility study would be straightforward, that it was just kind of a hoop to jump through and we would be able to get started with more complex things like program design and stuff after we got the feasibility study back.”185 In a word, the

184 Ibid, (Part I, 4:00).
185 Ibid, (Part I, 30:30).
actors on the inside had not factored in how important strategic planning from the beginning would be, and they had not sought the input for such a plan.

When I spoke with Jen Cregar, she confirmed Becker’s narrative. There had been a separation between the projects Becker had wanted to build in from the start and the technical feasibility evaluation conversations, which had been limited to staff from participating governments.\(^\text{186}\) Attempts had been made to “try to keep that communication channel open” with a couple in-person meetings, an email listserv, and website updates, but these means hardly constitute the kind of sustained collaboration that would have satisfied Becker. Moreover, Cregar cleaved to a conception of community engagement that was likewise anemic. When asked about possibilities for community engagement, Cregar explained that CCAs can have “community groups and the staff kind of at the table from the very beginning.”\(^\text{187}\) In Santa Barbara they had not chosen this model “because again, it was mainly focused on hiring an expert to do this feasibility study evaluation. Once we got past that point and we were thinking through corporate design, and what are the actual projects and programs we wanted to offer, that’s where the community feedback would be the most beneficial.”\(^\text{188}\) In this second model of community involvement, a formal community advisory body would be formed, as has been the case in many CCAs across the state.\(^\text{189}\) Here, community engagement is not solicited for program design. According to the CCA 2.0 strategy, program design is the crucial time at which community advocates must be brought in to ensure that programs developed actually serve communities.

Instead, the work of the staffers and insiders on the CCA front in Santa Barbara had been markedly narrow. They had focused on the technical feasibility study, while shutting out advocates for community benefits. In their model of community engagement, participation is institutionalized in a formal community advisory body well after the

\(^{187}\) Ibid, (27:30).
\(^{188}\) Ibid, (27:45).
parameters of the program have already been determined. And with this focus on technical feasibility, greater questions about where the CCA’s substantive commitments would lie seem to have been excluded. In a telling moment, Cregar refused to take a stand on the Puente Power Plant in Oxnard, Ventura County — the fate of which had been unravelling to the satisfaction of local environmentalists and social justice advocates over the previous few weeks.\textsuperscript{190} The CCA, set to cover Santa Barbara County as well as parts of Ventura and San Luis Obispo Counties, would need to get power from somewhere, and they would have to take power sources into consideration as they created their models; it is thus unlikely that the topic of the Puente Power Plant, sited in an already-polluted, poor, and predominantly Latinx area, had never been discussed. If it had not been discussed, it would reveal an even more dire lack of collaboration with local stakeholders from the environmental and social justice groups in the area. Still, Cregar maintained, “I haven’t had that conversation with staff from the other side [Ventura].”\textsuperscript{191} She continued, “And again, because they are more locally focused on their own communities, they’re probably paying less attention to what’s happening down in our region.”\textsuperscript{192} Creating regional silos offered decent cover for indecent ignorance and permitted insiders cleaving closely to eco-modernist policy constraints to ignore the substantive commitments to community goods advocated by proponents of CCA 2.0.

To be sure, the insider advocates and county staff had not willfully tried to squelch calls for local renewable generation, nor had they in ill will endeavored to create an entirely technocratic process. Instead, according to Cregar the advisory working group had focused on the question, “can this be a viable venture for us?”\textsuperscript{193} Along the way, they had not been agnostic to priorities of the community, and they had worked with elected officials and

\textsuperscript{189} Ibid, (27:30).
\textsuperscript{190} Ibid, (29:00).
\textsuperscript{191} Ibid.
\textsuperscript{192} Ibid, (29:30).
\textsuperscript{193} Ibid, (30:00).
community groups to set policy priorities to “integrate as much renewables as we could, cost-effectively, and commit to transition away from fossil fuel resources.” But they had not gone into the specifics of, for example, whether they would be able to offset the need for Puente Power Plant with renewables, even though it was opposition to this and similar gas-fired projects that had helped get some advocates on board. In Cregar’s words, “We haven’t been working with that granular level of detail yet.”

In his presentation at the Sustainability Summit, before he had conceded that local generation projects under 1 megawatt were financially infeasible, Craig Lewis had advocated for building substantive commitments into early project design. He had urged listeners to start with their goals, to create microgrids unique to the service area, and to build local to keep investments local. With those goals and strategies in place, then communities could conduct a cost-benefit analysis. Instead, Santa Barbara had started with vying for economic approval, excluded strategists and stakeholders who wanted to focus on specific projects and gaining support from the community, and had been met with disappointment.

D. Chapter Four: Feasibility and Infeasibility

The energy democracy views explicated in the previous section maintain that CCA programs can best articulate energy democracy aspirations when community benefits such as DERs are designed into CCAs from the beginning. A prevailing problem in the Santa Barbara case is that these energy democracy advocates were excluded from the early stages of program development. The local CCA advisory working group tasked with shepherding the concept through early phases of its development opted to undertake a technical

194 Ibid, (30:00).
196 Lewis, Craig. Presentation at Central Coast Sustainability Summit, University of California, Santa Barbara. October 11, 2017, (1:08:45).
feasibility study conducted by third party consultants that were precluded from continuing to collaborate in the formation of the CCA, and so had no particular dedication to the success of the CCA. The feasibility study was designed to simply evaluate whether a CCA program could be cost-competitive with IOU rates and remain financially solvent; staffers thus engaged in questions of economic viability to the exclusion of conversations about substantive commitments to local renewable generation. Its framing was fundamentally eco-modernist, in that the region’s ability to pursue sustainability goals was circumscribed by whether the program could deliver cost-competitive rates within existing market frames while minimally impacting ratepayers. The resultant technical feasibility study, presented to the Santa Barbara County Board of Supervisors on October 3rd, 2017, failed to present a viable program and became the first CCA in California to fail this assessment.

The failure of the first feasibility study in Santa Barbara creates an important opportunity to reflect on CCAs generally as a rough assemblage of sometimes incompatible discourses regarding energy and governance. On one hand, those cleaving closely to eco-modernist policy dictates embraced market logics without centering the importance of local democratic process. Energy democracy advocates, on the other hand, connected local control and sustainability into a single plan, recognizing that active, participatory engagement with problem definitions and solutions is the best and necessary path toward a just and livable future. Ultimately, the study’s failure gave energy democracy advocates reason to blame insiders for hedging their substantive commitments in favor of evaluating viability as a simple function of prevailing market logics.

The unfavorable results also allowed for an exploration of how different CCA advocates responded when the goal of addressing environmental concerns through a focus on local control met with resistance from the market. Faced with the prospect of having to make strategic compromises between local control and environmental concerns in light of the bad

\[199\] Ibid, (1:10:38).
news, some actors retreated to the position that CCAs were simply a tool to achieve more renewables. Meanwhile, an array of environmental NGOs and renewables figureheads urged the Board not to give up. North County representatives were eager to throw the project out, while those from South County clamored to patch together a new strategy to achieve greater renewable content ahead of the IOUs and salvage the promise of local control. Most critiqued the particular formulas and assumptions made by the consultant firm, Wildan, but suggested that these unfavorable results could be resolved through more public discussion. Others argued that only a program designed by interested actors fully committed to the total suite of environmental and social goods promised by CCAs could deliver the program the County needed. This latter camp stood firmly in the terrain of energy democracy. In sum, because goals vis-à-vis the CCA were shared among advocates, witnessing their responses to the feasibility study allowed for greater focus on how the feasibility study was understood by different actors. For the range of advocates, the study operated as either an evidentiary process designed to yield a technology of legibility or as simply bad strategy.

The most striking finding from the presentation and subsequent political action regarding the CCA was how little the whole process had seemed to matter. Presumably, the purpose of carrying out the feasibility study was that, with quality analysis by respected technicians, the county could arrive at the most rational decision regarding whether and how to proceed in the development of a CCA implementation plan. Observing the reception of the feasibility study results by environmental groups and the County Board of Supervisors, the actual results of both feasibility studies had exceptionally little impact on whether it was determined that the CCA would in fact be a good plan for the County. In a predictable 3-2 vote split between North and South County, the County Board of Supervisors resolved to pursue additional feasibility study analysis. When these results came back favorably in the spring, the same supervisors from North County stood firm on
their resolve to slough off responsibility over energy procurement to IOUs and progress on increased renewable content to state-level regulatory bodies.

In the case of both feasibility studies, the results were not taken at face value by any of the county level politicians. This revelation raises two important points. First, it challenges the assumption that CCAs will sink or swim based purely on their economic or technical framing. As it became clear throughout the conversation among the Supervisors, the function of the feasibility study had not been to convince the Board one way or the other in terms of the viability of a CCA program, but to equip both sides with a means of legitimating their existing commitments to sensible budgeting and laissez-faire energy policy on one hand, and to renewables and progress on the other. This was done through the boundary work of the advisory working group, which produced a boundary object — the feasibility study — with its special claim on expert knowledge (Owens 2015). Salvaging this boundary object required that Supervisors in favor of the CCA both maintain the legitimacy of the feasibility study in theory and challenge the specific feasibility study as it was carried out by Wildan. The relatively minor role of the feasibility study in shaping political will suggests that we are not, indeed, trapped in a woefully undemocratic paradigm of decision-making where democratic processes are sacrificed at the altar of technocratic management. Instead, CCAs’ best chance of success lies in those actors who, when faced with roadblocks such as dismal feasibility studies, reaffirm their commitment to local control as the sole guarantor of just and sustainable futures, even if it means breaking the rules. Matters of concern may here direct the gathering of facts (Latour 2004).

Second, the reception of both feasibility studies by political actors in North and South County demonstrated not simply the steadfastness of those politicians, but also the failure of the feasibility studies to manifest any real expert consensus as to whether the CCA could be beneficial or even workable in the county. Inspired by Jasanoff’s work on scientific advisory bodies, I argue that the failure of the feasibility studies to produce expert
consensus may demonstrate inattention to building consensus between CCA advocates and North County actors in the lead up to the study. For Jasanoff, negotiations are central to building consensus that political actors can abide by. Had CCA advocates mobilized energy democracy narratives of local control and community self-sufficiency or emphasized how CCAs can diminish the importance of state-level bureaucracy, which may be more likely to resonate with conservative actors than claims for environmental concerns, the CCA may have secured consensus from all parties (1990). From there, the feasibility study — at least the favorable one — may have manifested expert consensus. Instead, the only consensus reached was between the CCA advocacy groups and the liberal politicians from South County. The tactics of strategic planning of energy democracy advocates may have helped produce expert consensus in acceptance of the second, favorable study. As it stands, boundary work through the production of the feasibility study was insufficient to resolving controversy vis-à-vis the feasibility of the CCA program in Santa Barbara County.

1. The Wildan Study, Summer-Fall 2017

On October 3rd, 2017, the County Board of Supervisors hosted the presentation of the CCA feasibility study conducted by Wildan. This moment had been a long time coming. So much money and so much labor had been crystalized there to hang over Jennifer Cregar, the project lead, who sat with a neat stack of presentation notes, her hand over the space bar of the County computer.

Cregar began with an overview of the tri-county regional CCA movement as it had gathered steam in the preceding years. In December 2015, the first CCA advisory working group meeting was held, and that winter the feasibility study request for proposal (RFP) was issued. In May 2016, Wildan, with EnerNex, engaged to perform the CCA feasibility study. While this suggestion may appear naive, Mayor Rex Parris of Lancaster, CA, is illustrative of the possibility of conservative environmentalism.

Cregar, Jennifer. Santa Barbara County Board of Supervisors Meeting. Santa Barbara County
Almost a full year later, in the winter and spring of 2017, Wildan released the draft feasibility study for review by the advisory working group. That summer MRW, another consultant group seasoned on CCA feasibility studies, conducted a peer review, and the staff, comprised of fifteen members from eleven jurisdictions, began reaching out to other CCAs in the state for support and to check in about vetting some of the models Wildan had used. The advisory working group oversaw the feasibility study and assisted with outreach to community leaders and other CCAs, then they formed Central Coast Power.

In addition to the advisory working group, the California Community Choice Association (CalCCA) played a crucial role in helping to navigate regulations issuing from the CPUC.

The study carried out by Wildan was designed to determine simply whether the project could be economically feasible. To be feasible, a CCA program must have power costs competitive with IOU rates, and the enterprise must be financially viable in the long-term. Here, keeping costs low for customers is not simply an abstract dedication to the bottom line. Instead, this commitment to keeping costs low is baked into CCA policy. Unlike IOUs, which have enjoyed a natural monopoly in their territories since the early twentieth century, CCA customers may always opt out of the program and resume use of IOU-procured energy. This stipulation in the CCA enabling legislation, AB 117, means that CCAs must remain rate competitive to keep their customers. While not a qualification for a project’s feasibility, discourse on the CCA tended to tout the programs’ low impact on consumers, and ideally a CCA customer would not notice a change with the transition to a
CCA procurement model.210 Thus, by the logic of a feasibility study, if a project cost too much, or otherwise caused consumers to blink, its pursuit would not be recommended by the staff. Insofar as political actors take the results seriously, a feasibility study locks actors into the iron cage of market logics and the race to the bottom.

Cregar noted that, to get an unbiased perspective, when they issued the RFP for consultants to perform the feasibility study, they only selected firms that would promise not to take on subsequent CCA implementation work within the tri-county region.211 This, according to Cregar, would guarantee that the study would be purely factual, though it also limited the applicant pool for firms. The assumption underlying this logic is that firms that have skin in the game could not be trusted to deliver honest results, and conversely that they could trust a study insofar as it was objective. This study would stand on reason alone and not be tainted by interest or, for that matter, strategy. Taken as a whole, the structure of and discourse surrounding the feasibility study cleaved toward eco-modernist considerations that focused on keeping rates low, minimally impacting consumers, and favoring adherence to market logics over strategic interventions on project modeling.

The feasibility study included an analysis of twenty-four different scenarios, including eight city and county combinations and three renewable energy content levels, covering a ten-year study period from 2020-2030, and a pro forma assessment of power purchase costs, operational costs, a reserve contingency fund, and debt service.212 Wildan also included a greenhouse gas emissions comparison and a risk analysis.213 By now all the key actors, including staff and public stakeholders, knew the results. They didn’t look good.

212 Ibid, (6:04:30).
2. Drivers of Infeasibility

The results of the first feasibility study conducted by Wildan and peer reviewed by MRW was unexpectedly negative and hotly contested. The project lead, Jennifer Cregar, indicated to the Board that the feasibility study varied from what other communities had experienced. According to Cregar, the primary drivers of program infeasibility could be broken into three categories: complications of managing two IOUs, large upfront capital costs, and nimble IOUs.

Contra conventional wisdom regarding economies of scale, these first two drivers of infeasibility essentially concern the inefficiency of creating a large service area. First, working with two IOUs in one CCA would mean that the CCA would have to compete with two different rates, and navigating their billing systems had proven complicated. Next, the upfront capital costs of a CCA covering such a large service area would require not just a bank loan, but a debt issuance. Here, a large serve area meant a complicated ledger and a big risk up front if the project flunked. On the other side, because power costs and exit fees were by far the biggest costs of the CCA program, and those would vary depending on how many people are in the program, economies of scale mattered comparatively little in reducing costs. Biting off a large service area had not significantly helped to mop up the fixed costs of the CCA either, such as program staffing, since those costs were not major determinants in the Wildan feasibility study.

The other driver of infeasibility concerned IOUs and their influence over ratepayer bill structure. While never explicitly framed as war maneuvers, Cregar offered that IOUs had used their time since early exploration of the CCA to adjust their own models, such as by shifting costs from generation to transmission in the years leading up to the study. Because

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a CCA uses territorial IOUs’ transmission services, transmission costs would remain the same for either CCA or IOU customers. Generation costs vary widely for both IOUs and CCAs, and they are determined by market forces. Increasingly since deregulation, IOUs have moved away from building their own generation facilities, and generation now represents a pass-through cost, so under a CCA program, their role as procurers of energy would simply shift to CCAs. While in PG&E territory the transmission and generation fees are roughly equivalent, in SCE territory, transmission fees constitute the bulk of the bill. According to Wildan, over the past four years, SCE’s generation charges have gone down 13%, while transmission charges have gone up 89%, which Cregar suggests could be an intentional adjustment to make themselves more competitive against CCAs. By strategically adjusting their models to report higher transmission costs, IOUs can force CCAs into competition with artificially reduced generation costs while keeping transmission costs — which must still be paid to IOUs — artificially high. This concept is illustrated in Figure 8.

Moreover, IOUs have been able to work through the California Public Utilities Commission (CPUC) to increase power charge indifference adjustment (PCIA) costs. This “exit fee” is designed to compensate IOUs for stranded energy contracts when local governments depart from IOUs. Especially since the electricity crisis of 2000-2001, IOUs have been required to engage in long-term contracts for electricity. When communities break those contracts, IOUs are left with energy they have contracted for, but no longer have customers to sell to. IOUs calculate PCIA charges by taking the amount they originally bought the electricity for and subtracting the amount that they could sell that energy for on

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219 Ibid, (5:47:30).
220 Ibid, (5:52:27). For this reason, a CCA in PG&E territory would be at least more feasible than in SCE territory (6:26:58).
221 Ibid, (6:34:40).
222 Ibid, (34:40).
This latter value is typically much less than the former, since energy prices have been going down, especially in the renewables sector; this results in a loss on those long-term contracts. The actual amount of the PCIA charge is a source of major uncertainty in CCA feasibility models and contributes substantially to overall fees.

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224 Ibid, (5:50:04).
program risk. First, because the price of energy fluctuates constantly, the actual dollar amount of the PCIA varies from year to year and cannot be determined definitively until the CCA program launches. Moreover, IOUs have maintained control over how PCIA charges are calculated. There is a set formula for how the PCIA charge is calculated, which is approved by the CPUC at the utilities’ rate-setting meeting every year. At the same time, CCA advocates have often found the PCIA setting process to be opaque (Hastings et al. 2016). Wildan’s feasibility study found that PCIA charges could be anywhere from $75 per year for ratepayers with standard load in SCE territory and up to $200 per year for PG&E customers. The need to factor in PCIA charges to new costs to customers forces new sale prices down, as illustrated in Figure 9.

**Figure 9. Generation Costs, Original Purchase Price vs. New Sale Price with PCIA Charge**

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Together, strategically-adjusted transmission costs and high PCIA charges squeeze the part of the ratepayer’s bill that goes to generation, as illustrated with the hypothetical Figure 10. Thus, CCAs are forced to procure energy at much lower rates than their IOU competitors to remain cost-competitive.\textsuperscript{229} As far as the Wildan study was concerned, that cost, combined with the CCA’s commitment to procure at least 50\% renewable energy from launch, rendered the project infeasible. After attempting twenty-four different scenarios, Wildan found that none proved viable.\textsuperscript{230}

\textbf{Figure 10. Energy Costs, with Generation-Transmission Distribution and PCIA Charge}

\textsuperscript{228} Ibid, (5:52:06).
\textsuperscript{229} Ibid, (5:46:17).
\textsuperscript{230} Ibid, (6:09:20).
In response to some early findings from Wildan, the CCA staff in the tri-county region reached out to MRW, another consultant firm with CCA experience, to conduct a peer-review study. MRW’s study yielded a better outcome, suggesting that a CCA in PG&E territory could be rate competitive after a few years.\textsuperscript{231} From Cregar’s presentation, it was clear that there had been major discrepancies between the two firms’ studies. However, because MRW had not had full access to the data or the ability to run an entirely new study, MRW’s study was limited to surface critiques.\textsuperscript{232} This matter would drive great controversy in the public comment period to follow.

While a CCA must only procure energy for those it intends to serve, and so opt-out rates spurred by high energy costs are not themselves a major driver of infeasibility,\textsuperscript{233} if a substantial portion of customers opt out of the program after energy is procured, that would be experienced as a loss by the CCA. According to Wildan’s feasibility study, implementing a CCA in the tri-county region would add an extra $16 per month to every PG&E bill, and an extra $20 per month to every SCE bill, assuming the CCA delivered 50% renewable energy.\textsuperscript{234} Supervisor Steve Lavagnino from Santa Maria scoffed that if his constituents saw their rates increase by even $5 a month, they would opt out.\textsuperscript{235} By all appearances, the CCA had been dragged under by its commitment to low costs.

Supervisor Wolf, representing the City of Santa Barbara and Goleta, asked far and away the most questions of Cregar, seemingly eager to find a way for this to work in Santa Barbara. If she couldn’t win the fight on the county level, could she win it for her district? Could Santa Barbara do it alone?\textsuperscript{236} Unfortunately, Cregar informed her, the CCA-enabling legislation requires that if a CCA is offered to any portion of a jurisdiction’s residents, it

\begin{footnotesize}
\begin{enumerate}
    \item Ibid, (6:11:58).
    \item Ibid, (6:23:40).
    \item Ibid, (6:15:20).
    \item Wolf, Janet. Santa Barbara County Board of Supervisors Meeting. Santa Barbara County
\end{enumerate}
\end{footnotesize}
must be offered to all of its residents; thus, a CCA only for South County, in SCE territory, would be illegal.237 Regardless, given SCE’s drop-dead low generation rates, a CCA in South County would likely be one of the least feasible options.238

From here, Cregar on behalf of the staff presented four options to the Board. The first option was for the tri-county region in question to pursue membership in two existing CCA programs. Monterey Bay’s CCA in PG&E territory would welcome North County at no cost, though the CPUC would charge up to $50,000 to file an updated implementation plan.239

The portion of the experimental CCA region lying in SCE territory would be welcomed by the Los Angeles CCA, but would require a $4 million loan to cover incremental power costs.240 However, there could be no guarantee that the CPUC would sign off on the split county approach, and for the project to be legal they needed the CPUC’s consent.241 More importantly, insofar as CCAs are designed to give communities greater local control and opportunities for local generation, no such guarantees could be made should Santa Barbara County be divided and flung toward two separate CCAs with their own political histories and experience in the world of CCAs.242 The second option, to form a new CCA program, was explicitly not advised by the staff, given the results of the feasibility study.243 Option three entailed further exploration of a CCA in the future, but with no commitment at present.244 Here, communities could wait for certain regulations to solidify, and for markets to stabilize.245 Finally, option four would stop CCA exploration entirely.246
the row in front of me next to the consultants from Wildan and MRW leaned in and said, “Twenty bucks on option three?” They nodded, and he left.

3. Feasibility as a Technology of Legibility

After the presentation by Cregar and the first round of inquiries, the Board turned to public comment. Every single speaker who approached the podium was openly critical of the feasibility study results and urged the Board to push ahead despite the negative results. But while the speakers questioned the results of this particular feasibility study, they did not challenge the results of the feasibility study simpliciter. Claiming that Wildan’s initial study had been flawed, and that the data compiled by Wildan should be released for more in-depth analysis by both other consultant firms and public stakeholders, the public urged the Board not to give up yet. In this way, they were able to throw out the negative results of the study while retaining the feasibility study as a boundary object produced to legitimize claims to expertise (Owens 2015).

Local conservative radio show host Andy Caldwell, by all appearances the only attendee in the room dedicated to the destruction of the CCA program,²⁴⁷ had left early, leaving Brian Stevens to deliver the first remarks. Stevens, a retired energy consultant, had worked for the American Public Power Association for thirty-five years, and he argued that Wildan’s projected cost of renewables had been too high, that they were outdated, and that the projected PCIA charges were too pessimistic.²⁴⁸ Further, if a CCA would be feasible in North and South County separately, then it would stand to reason that it would be feasible together — the solution was to find a better contract similar to what the Monterey Bay and

²⁴⁷ At the Santa Barbara City Council Meeting on October 31st, 2017, Tom Widroe from conservative business advocacy group Santa Barbara City Watch offered a conservative perspective on the CCA. Widroe called the CCA a “scam,” urged against the debts and bonds associated with CCA program start-up, and argued that the city is going in the right direction in terms of renewables anyway (Line 46). Finally, he opined, “How many times will we have to look at the data before we get that it’s just not feasible” (Line 46).
²⁴⁸ Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (6:54:21).
LA CCAs had found. Stevens’s comments gestured to market errors, and so he reinscribed rather than challenged the underlying logic of the study.

David Turner from the World Business Academy, which has been working on plans for a local microgrid for years, took a different tack, arguing that public review of the data could solve the infeasibility crisis. Turner declared that the situation “cries out for a public peer review period where other consultants are allowed to examine the data” for use in their own models. Apparently, MRW had been unable to do a full analysis because Wildan’s models had varied so severely that MRW couldn’t properly extrapolate their results. Turner threw in for at-risk contracting and using a single, unified RFP process, and open access for public stakeholders to Wildan’s data.

Amelia Carr of the Sierra Club asserted that the biggest problem with the feasibility study was that Wildan’s models ran counter to real-world experience, which we know because there are plenty of successful operational CCAs. First, Wildan planned for a starting staff of forty-five people, four times the size used by other CCAs at launch. Second, Wildan created a reserve fund that would keep growing, even after its target funds had been reached. Third, the cost of renewables was projected to be twice as much as market rate: “It should be around $40 per megawatt hour, not 80 – half.” Here, and just for a split second, Carr shot a resentful glance at the advisory working group. MRW only partially amended the model, but even they found that the CCA would be feasible from day one. Carr also recommended a public workshop and a new study with MRW, and

249 Stevens, Brian. Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (6:57:02).
250 Ibid.
251 Ibid, (7:01:27).
252 Ibid, (7:02:54).
253 Ibid, (7:04:33).
255 Ibid.
256 Ibid.
257 Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative
suggested at-risk contracting. Carr concluded, “This is happening. This is happening everywhere. [...] We should not be left behind because of one faulty study and some faulty assumptions.” Regarding her concern at being “left behind” compared to other regions, it is perhaps important to remember that Carr holds a position at a national environmental NGO with a national campaign to reduce local emissions.

Michael Chiacos from the CEC called the results “alarming” and suggested that they should pursue a more comprehensive review, arguing that MRW hadn’t updated the figures in their model, but had simply commented on Wildan’s. Sigrid Wright, also from the CEC, argued that they would need more due diligence and asked for another month for experts to review the two thousand page study, as well as for open access to the data used by Wildan. At the same time, Wright shifted her tone to say that, “for us, [the CCA has] always been a tool, not a goal.” Thus, as actors generally scrambled to salvage the feasibility study process and the intention to form a CCA, some players began to clear space for compromise should the tactic of achieving environmental and community goods through local control fail.

Diane Boss, speaking not on behalf of the CEC board, but as a former member, declared that it was hard to believe the results, and that if SCE’s rates were the problem and the Los Angeles CCA is going ahead, it’s a good indication we should look at the numbers more closely. Ken Hough from Santa Barbara County Action Network (SBCAN) made a video call from Santa Maria to express SBCAN’s support for Option 3 as well and urged that another panel of experts be called upon to pursue additional studies. Finally, Benjamin Ikhart from Green Power, who has been working with Monterey Bay Community Power,
offered that the general trend in technical and feasibility studies for all CCAs is that they have been conservative, citing Marin and Sonoma as CCAs that had faced considerable opposition from PG&E and yet had outperformed their studies.  

The public, insofar as this arrangement of business leaders and environmental NGO chairs could be regarded as a fair approximation of the public, communicated their resolve to continue exploration of the CCA. But while they admitted that this particular feasibility study was illegitimate, they carefully upheld the legitimacy of the feasibility process itself. Put another way, they defended the boundary work being done by the feasibility study (Owens 2015), which constituted an important technology of legibility (Scott 1998). When regarded as a manifestation of expertise, a successful study could do boundary work by demonstrating to CCA detractors that the plan penciled out, and that local control over energy that would be good for communities and good for the planet was not only virtuous but could be economically viable. The process of the feasibility study was to gather evidence for this claim so that the study itself could be used as a technology of legibility. When the search returned with unfavorable evidence, advocates had to find a new way to secure the project’s legitimacy, and so they critiqued Wildan’s search for evidence and asked for a second opinion. To be sure, advocates had presented a litany of errors with the study, and so this analysis should not suggest they themselves were dreaming up unfounded criticisms. However, that advocates were not willing to take the feasibility study at face value suggests first that their search for facts was directed by values, and second that they regarded the feasibility study as an important tool in realizing those values.

4. Assessing Goals and Strategies as the Rubber Meets the Road

Between the time when the public stakeholders were informed of the results of the feasibility study and when Cregar gave her presentation before the Santa Barbara County

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Board of Supervisors, I was able to conduct private interviews with three key players in the environmental NGO landscape of Santa Barbara County. These interviews provide an opportunity to see how actors respond to market-based challenges to the notion that environmental concerns can be won through local control. In a word, how do different actors grapple with the eco-modernist constraints embedded in CCA policy? While the statements made by CCA advocates during the County Board of Supervisors Meeting largely maintained that CCAs could in fact be used to secure environmental and community goods through local control and at competitive rates, these private conversations revealed a wider range of positions about the results of the feasibility study and next steps that should be taken.

These interviews suggest that CCAs are best understood as rough assemblages of disorderly commitments and that, when tested, those commitments may splinter. While CCA advocates tend to perceive CCAs to be well-suited to achieve environmental goods through local control, not all actors see local control as an essential mechanism to secure those environmental goods. When these actors must contend with the eco-modernist constraints within CCA policy, they more readily abandon energy democracy aspirations, which would subvert the existing centralized energy system and assert local resilience, in favor of an approach to secure environmental goods by themselves. Here, CCAs are presented as “just a tool” to get higher renewable content, and the dramatic organizational transformation made possible through CCAs is downplayed. Other advocates reasserted their commitment to the CCA and, in keeping with their statements before the County Board of Supervisors, salvage the feasibility study process as an important boundary object for securing legitimacy. Still another camp includes those actors who argue that, insofar as local actors insist on the feasibility process, only an entirely different kind of feasibility study could produce an actionable plan. Such a feasibility study would be based on

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principles of active participation of stakeholders and require work with consultants who have skin in the game. This position resonates with the kind of strategic planning advocated by energy democracy advocates in earlier sections of this work.

Perhaps surprisingly, the organization that had been invested in the CCA movement in Santa Barbara for longest, the CEC, appeared most ready to let go of the energy democracy aspirations of the CCA. Amy Parker had been involved in the CCA push at the CEC, which has acted as an incubator for the CCA movement in Santa Barbara for the last decade. We met for coffee just days after the results of the study had been released to the public, and she was understandably pessimistic about the future of the movement. While she recognized that Santa Barbara was politically ripe for movement on our renewable goals, inscribed fragilely as they were with the city’s “fossil-free by 2033” goal, the results of the feasibility study had been troubling. “I don’t know if an elected official could really in good faith move forward with the program given the results of the feasibility study.”266 She concurred with Cregar on the drivers of infeasibility but was skeptical that another study by another consultant would necessarily solve the political problem. “Again, if you’re looking at this from a political standpoint, the feasibility study was done by a consultant, and then the peer review was done by another consultant, and so this would, in the eyes of the government, be just one more consultant, so why would, you know, the talking point is, why would you believe this consultant more than these other two consultants?”267 Economic feasibility aside, Parker was concerned that the negative results of the study had effectively tainted the movement politically.

Parker’s statements here marked an important shift from the position she had expressed at public functions in months prior. At her presentation in the Faulkner Gallery at the beginning of the summer, she had heralded the CCA as a singular solution to a host of

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266 Parker, Amy. September 14, 2017, (28:00).
267 Ibid, (43:00).
local problems ranging from job loss to renewable energy goals. With the negative results of the feasibility study, she had fallen back to presenting the CCA as just one strategy to achieve narrower goals that mostly revolved around sustainability. She stated, “There’s a widespread agreement that we need to decarbonize our electricity supply. But community choice I think is, I think, from the standpoint of CEC, is just one strategy to do so, and so, you know, there could be other ways to do this, and if one of those proves to be successful, then that would be something that we would be in support of.”268 One such strategy offered by Parker was SB100, a state-level initiative that would decarbonize our electricity by 2045.269 Parker admitted that the legislation had failed. When I suggested that “2045 is a ways from now,” she retorted, “It is a ways from now, but it would definitely accelerate the decarbonization of the electricity for the entire state. [...] I love the idea of local control and local build-out, but. But I suppose a top-down approach could also provide the same greenhouse gas reduction.”270 Here, not only was Parker willing to put her hopes in a failed measure and a far-off goal, but the state-level initiative would actually decenter local control as the path toward sustainability. Sigrid Wright from the CEC had also delivered a public comment stating that the CCA was just a tool to get higher renewable content. While the remarks of both Parker and Wright should be taken in the context of the negative results of the feasibility study and should perhaps be regarded as a strategy to switch tactics while preserving the goal of securing high renewable content, their compromises on local control were disappointing and seemed to betray the energy democracy potential of CCAs.

While the pursuit of these environmental goals might be well-intentioned, by discarding local control, such solutions would fail to meaningfully challenge the prevailing centralized energy system to secure local resilience. As Amelia Carr from the Sierra Club noted in a subsequent interview, the kinds of state-level legislative solutions advocated by Parker will

268 Ibid, (46:00).
269 Ibid, (47:00).
270 Ibid, (47:30).
not allow Santa Barbara to move as aggressively toward sustainability goals, and other local benefits would also remain unrealized. As such, advocates for local control and environmental goods should remain committed to the project. Carr, a representative from the Los Padres chapter of the Sierra Club, was brightly confident during our interview, and she had just participated in a public stakeholder meeting regarding the CCA. By this point, the key players had been able to digest the data and ready themselves for a spirited defense on the 3rd. Carr rehearsed her critiques of the Wildan study, that they had used old prices for renewables,\textsuperscript{271} that they had planned for an infinitely growing reserve fund,\textsuperscript{272} and moreover because “it runs counter to real-world experience where every CCA, everywhere else in California is feasible.”\textsuperscript{273} In sum, “If your real-world experience is counter to your theoretical model, maybe you should question your model.”\textsuperscript{274} From here, Carr elaborated on her prescriptions moving forward. But most importantly, the public needed to hash out, with full transparency and through rational discourse, the results of the feasibility study. We would need public comment, more rigorous peer review, a workshop to bring in community choice experts.\textsuperscript{275} Dialogue and process, with the information in the hands of the people, would make things right. In sum, the feasibility study had to be taken out of the demonstrably incapable hands of Wildan and placed in the realm of popular debate. By salvaging the feasibility study, the project, too, could be salvaged. The boundary object of the feasibility study still had merit and could be used to demonstrate expert consensus. But first, some negotiations and conversations would have to be carried out among stakeholders. This approach to building expert consensus resonates with Jasanoff’s work on scientific advisory committees (1990). Here, technical matters may be resolved best through the assertion of expertise, but also through building consensus collaboratively.

\textsuperscript{271} Carr, Amelia. September 29, 2017, (34:00).
\textsuperscript{272} Ibid, (35:00).
\textsuperscript{273} Ibid, (44:00).
\textsuperscript{274} Ibid, (33:00).
\textsuperscript{275} Ibid, (50:00).
Still another CCA advocate adopted a related but more extreme stance. Chloe Becker from the CACE, who had also been on the community steering committee of the local Central Coast Power initiative, was prepared to critique the entire feasibility study process, top to bottom. The staff had produced an “objective” result, and for that reason, they had failed to deliver results that could move the CCA program down the court. First, instead of using at-risk contracting, the staff had used a consultant firm that would be paid regardless of the results and which would be precluded from working with the CCA in the future. Because they had used unbiased consultants who had no “skin in the game,” the firm had no particular interest in the program’s feasibility. For Becker, this decision, made to give the study process the appearance of neutrality and disinterestedness, had been a grave mistake:

Folks interested in getting into the community choice aggregation space need to be aware that there are conflicts of interest among consultants in the field. Consultants are hired to generate these really expensive feasibility studies without any skin in the game. They get paid regardless of their results of the study, versus at-risk contracting, which basically allows consultants to do these studies and receive payment after they’ve developed a workable, feasible program in their study [...] So, when you hire a consultant to do a study [not at-risk], they have no incentive to come up with a good result, or even an accurate result, if they get paid no matter what. You’re not necessarily gonna get the same high-quality result.

For Becker, when consultants are paid for their work regardless of the results, payment operates as a perverse incentive to do work ineffectively and allows firms to wash their hands of a project as soon as the results come in. It might rightly be pointed out that at-risk contracting carries its own perverse incentive to dream up favorable results where none may exist. The point here is that, whether an entity engages in at-risk contracting or not, there is no such thing as disinterestedness. From here, the best we can do is follow the interests that most align with our own and allow our concerns to direct our gathering of facts (Latour 2004).

276 Interestingly, Becker referred to consultants’ lack of incentive to deliver a good result as a “conflict of interest.”
277 Becker, Chloe. September 8, 2017, (Part I, 16:00).
While the staff were willing to feign disinterestedness, Becker understood interest to be the driver of a successful program. Rather than simply assessing a plan, an at-risk contractor would have designed a plan from the ground up with the intention of its success. “We want someone who is aware of best practices, knows how to implement a program from the bottom up, like design a program that can work, even in a highly competitive area.” Not only would at-risk consultants have had the ability to create a program from the ground up, they would have had the motivation to make that program succeed. “We could have done an at-risk contract hire, and only certain consultants would have even volunteered to do that, right? That would narrow the number of applicants to those who are hardcore and advocates, right? Like, there are people in the industry who want CCAs to be the way of the future, they want local build-out and economic justice.” Taking a more strategic approach to sourcing contractors would have allowed the movement to build a committed team.

Becker’s final comment on this matter is telling. If the point of the feasibility study was to disinterestedly test the mettle of a project according to its cost competitiveness, neutrality, and low-impact to customers, here Becker charted a very different path. Here, matters of concern, including such energy democracy values of local build-out and economic justice, would best be secured through programs designed for success by players who had skin in the game. The logic that players with a vested interest in the success of a program, understood as a suite of substantive commitments to particular outcomes, itself sits squarely within the framework of energy democracy. The energy democracy framework above all holds that actors should participate in their energy systems to ensure that public goods are secured. While the use of at-risk consultants is by no means tantamount to

279 At the same time, Becker does note that once an at-risk study had been developed, “then you could have a peer review come in and double-check their numbers and make sure there isn’t any bias” (Becker, Chloe, September 8, 2017, (Part I, 19:00)).
280 Becker, Chloe. September 8, 2017, (Part I, 18:00).
participatory democracy, the logic underlying the use of at-risk consultants rejects neutralitiy in favor of interested involvement. This approach is rooted in a key tenet of participatory governance: actors with skin in the game will make good decisions on matters that concern them.

Community choice aggregation is an awkward marriage of eco-modernist and energy democracy commitments. CCAs were designed to provide communities greater choice among electricity providers to increase competition in the market, but the means by which that competition was secured was through the aggregation of customers into communities capable of advocating for substantive commitments to local generation and higher renewable content. This tension creates problems for actors on the ground. The variety of responses to the feasibility study elicited during this series of key informant interviews in the wake of the feasibility study can be understood as three very different responses to a failed plan. When the feasibility study as an apparatus of program legitimation failed, it provided an important opportunity to chart how actors responded to crisis, and to which values those actors cleaved. When the CCAs ran up against an unfavorable feasibility study, Parker and the CEC appeared willing to sacrifice local control to pursue sustainability goals. In contrast, Carr argued that rigorous and open negotiations to build consensus could still salvage the feasibility study as a boundary object. Beyond this, a more radical perspective holds that success must be designed from the ground up by players committed to the broad range of substantive commitments made possible through local control. In this way, these interviews demonstrate the breadth of positions somehow tenable within the CCA movement.
5. The Farce of Objectivity

“To me, the CCE is not an end in itself — the end is trying to create more renewables.”\textsuperscript{281} Back at the County meeting, Supervisor Williams was busy trying to nudge Supervisor Lavagnino into at least letting the County pursue an RFP with SCE to start generating its own renewables. Lavagnino, representing Santa Maria, had remained incredulous, even condescending, to the staff. He and Supervisor Adam, also representing North County, remained staunchly opposed to the CCA, even with the understanding that CCA rates in PG&E territory would be substantially better than in SCE territory to the South. On the other side, South County supervisors wanted to see the CCA succeed despite the unfavorable rates projected by the study. Williams went so far as to suggest that, rather than figure out if a given proposal would succeed, the staff should construct a plan so that it \textit{does} succeed.\textsuperscript{282} If not by his admission, this statement resonated strongly with the energy democracy approaches I’d witnessed during my interview with Becker. Throughout the ensuing conversation, it became clear that the function of the feasibility study had not been to convince the Board one way or the other in terms of the viability of a CCA program, but to equip both sides with a means of legitimating their preexisting intentions to either champion or challenge the CCA. Not only did CCA supporters on the Board refuse to back down from their support for the CCA, they nimbly tried other tactics whereby they might make some advances toward public power.

After Williams’s first remarks, the next two comments came from Supervisor Lavagnino and Peter Adam, the two representatives from North County. Both supervisors were smugly hostile to the project. North County districts, serving Santa Maria, Lompoc, and environs are typically far more conservative than those in South County. Taken simply as a matter of

\textsuperscript{281} Williams, Das. Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (7:26:22).

\textsuperscript{282} Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (7:22:02).
politics, it is perhaps shocking that North and South County have been lumped into one governmental territory at all. In terms of electricity systems, trying to pair them in one CCA is even more absurd, given that PG&E services North County while SCE covers South County.

Lavagnino declared that while he had voted to fund the study, he was afraid we had picked favorable results before it was even completed. Further, Lavagnino rejected the notion that the public was very much interested in starting a CCA at all, declaring “My door is not getting beat down by people wanting to pay more for electricity.” While he was apparently all too happy to ignore Hough from SBCAN, Lavagnino had a point: there hadn’t been much public interest in the CCA in North County. Moreover, Lavagnino expressed confusion as to South County’s persistent dissatisfaction with their renewable portfolio, which for him demonstrated the inevitable march of progress: “It’s like we can’t hear the good news [...] I don’t understand why that’s never good enough.” “The plan’s working,” he added, referring to rising RPS standards. Finally, Lavagnino offered that if the staff found something flawed in the study, he might support having another look, but short of that, “I’m out.” It didn’t seem to matter that every single person who had come to speak during public comment had found at least one thing wrong with the study. Because Lavagnino was so ready to throw out both appeals from North County environmental and social justice groups, as well as the range of problems public stakeholders had brought to light, it is not entirely correct to read Lavagnino’s opposition to the CCA as a clear-eyed acknowledgement of the results of the feasibility study. Instead, Lavagnino was willing to look past the errors of the study, fight for the status quo, and let other actors at the state and corporate levels call the shots on energy questions.

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284 Ibid, (7:30:35).
Against Lavagnino’s self-assured, slick aesthetic, Supervisor Adam has the gruff, rueful indifference of a man who has never been in control but has always felt as if he should be. “You guys are killing me,” he said as he pouted bemusedly. “You know, this isn’t our responsibility.”

Like Lavagnino, Adam suggested that the entire matter of renewable energy was both outside the county government’s purview and inevitable, chalking progress on that front up to technological determinism and centralized authorities: “It’s all happening. It’s all happening because of technology, because the state’s telling people to do other things.” For all this, Adam played the accelerationist at the dais, prodding the Board to do the wrong thing, in terms of the budget, just so they’ll learn a lesson. He concluded his statement by musing, “You know, I might vote for this thing because it’ll make me be right faster. Ya know? If it takes a third vote, maybe I’m your third vote. Cause it would be interesting, to watch us as we go through life here creating less revenue and more expenses and compounding this problem. And maybe I’ll help, I don’t know. My staff’ll kill me if I do,” he broke off as he smiled at the rest of the dais, who straightened in alarm, “Maybe there are a couple people here who would beat them to it.”

He finished, “Ridiculous, we’re just fiddling while Rome burns.” Like Lavagnino, Adam viewed the entire CCA project as a waste of time, a fight we don’t need to pick, and a drain on resources that are better spent on other programs. But Adam’s statement here, both his words and his overall tenor, project a deeper dissatisfaction with the Board. It seemed as though his only power here is as a disruptor, clamoring for attention from a Board that consistently outvotes him and his Northern colleague.

Following Lavagnino and Adam’s brash dismissal, Supervisor Wolf representing Santa Barbara picked up the energy in favor of the CCA. “I’m not giving up,” she declared.
explaining, “I think there’s too much invested.” She prodded toward alternatives, suggested we look at the model again, maybe look at a legislative fix to establish two CCA’s in the county. She doubled back on Lavagnino and Adam, reminding them that PG&E customers would see the greatest savings, and she reminded Lavagnino that “one of the reasons we’re good now is because we’ve been proactive.” Finally, she declared, “We’re committed to doing this, so let’s find a way.” With this final statement, Wolf concurred with Williams. We ought to allow matters of concern drive our quest for facts, rather than permitting technical studies to get in the way of the County’s mission.

Supervisor Hartmann’s district covers almost the entire coastal region of Santa Barbara County. As such her jurisdiction ranges from Isla Vista to the North, though missing key Republican cities of Lompoc and Santa Maria, which are Lavagnino and Adam’s territory. A pleasant, pristine older woman, Hartmann began by talking about her recent experience flying in a helicopter over the Edison lines after the Whittier Fire, seeing the catwalk marked off with red and witnessing people try to figure out what to do if the power goes out. Of course, she added, we know just what would happen if the power goes out, and we need look no further than Puerto Rico in the wake of Hurricane Maria. For Hartmann, “Reliability is critical. [...] We live at the end of two frayed extension cords, one from PG&E and one from SoCal Edison.” As an effort to ensure local control and resilience, Hartmann echoed an earlier suggestion by Williams calling for developing an RFP for local

293 Ibid, (7:40:54).
296 Technically speaking, the concept that Hartmann is referring to here is actually called resilience. Reliability refers to procuring enough energy so that redundancy can be assured, especially in times of extreme weather events and heatwaves.
297 Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (7:41:39).
renewable generation that could be owned by the city and purchased by SCE. Hartmann reminded the staff that all the expertise built up in energy markets after the past few years of exploring the CCA “puts us in the catbird’s seat.” Like the other liberal supervisors from South County, Hartmann resolves that the County has invested too much to give up now, and that our best option is to keep driving toward a revised study while pursuing alternative paths toward local, publicly-owned renewable generation.

From here, Williams and Cregar commenced a volley of questions and answers to hammer out the next steps for issuing an RFP for local generation. While the RFP under discussion here would fall short of the kind of comprehensive public power made possible by the CCA, the Board’s quick pivot to new tactics for generating local renewable power indicated their commitment to the concept. Kelly Hunter, the public services representative of SCE, approached the podium to clarify that the RFP for 100 megawatts of power currently being issued by SCE is simply for resiliency needs, not for everyday use. “If a catastrophic event took our 220 lines down, which we certainly don’t anticipate, we see no need to, we don’t see that happening.” Hunter’s comments of course came before the series of disasters that beset South County in December and January that winter. These disasters not only shook the public’s faith in the service lines coming over the mountains, which Hartmann had witnessed from her helicopter flight over the Santa Ynez Mountains,

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300 One persistent problem between the IOUs and local governance is that municipal and county facilities are currently prohibited from aggregating their meters, so in order to power a government facility with renewable energy, all said renewable energy must be built on site (Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, [7:47:03]). This is also referred to as a prohibition against “power wheeling.” In an interview with a SCE representative, I inquired as to what prevents municipalities from engaging in power wheeling. The representative feigned ignorance of the policy and suggested that “cost and infrastructure would probably be the biggest challenges” to powering the desalination plant with solar located off-site (Hunter, Kelly. February 7, 2018, [59:00]). If the County were to generate their own power, they could effectively get around this prohibition (Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, [7:57:44]).
301 Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (7:59:35).
but moreover the IOU’s legitimacy in the eyes of keen observers who connected the faulty power lines to the cause of the fire. When the Montecito mudslide knocked out a gas line and caused an explosion in the midst of a catastrophic debris flow, it seemed a signal from God that we were doing things wrong.

Wolf pulled the Board’s focus back onto the CCA, and Williams crafted a motion:

That we direct staff to seek out more information on other CCEs as one option. Our biggest option at this point though is to engage MRW and other qualified consultants to conduct additional analysis with adjusted assumptions as outlined in the peer review and potentially use a market-based approach to solicit PPA contracts for wind, solar, and natural gas to meet the energy demand that we would have. And then thirdly that we would have, do this, at least look at how we could do this Plan B, which would be environmental services to work with general services to issue an RFP for an energy consultant to analyze Santa Barbara County facilities pending solicitation from SCE for local electrical capacity resources, and also reach out to other agencies and large customers to inquire about their desire to participate in that planning effort.

Wolf gave her aye first, followed by “a reluctant no” from Adam, “a hearty no” from Lavagnino, and two ayes from Williams and Hartmann. The motion passed three to two, and the fight for the CCA continued, the negative feasibility study receding in the rearview mirror.

6. Epilogue: The PEA Study, Summer 2018

The failure of the feasibility study in fall of 2017 opened a space for a host of local CCA advocates — with shared commitments to the CCA but differential strategic orientations toward the feasibility study itself — to express their understandings of what kind of function the feasibility study served and what next steps should be taken to achieve their shared goal. A new study had been undertaken with a consultant firm that would likely have greater engagement with the CCA, which was more trusted in the field, and that could even have

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302 Ibid, (8:01:31).
303 Ibid, (8:01:42).
304 Ibid, (8:03:21).
some skin in the game. When the favorable results of the second feasibility study were presented in the summer of 2018, the study had still failed to produce expert consensus, and none of the County Supervisors had changed their positions on the CCA. The convergence of the outcomes of these two very different studies demonstrates a failure to arrive at consensus. Here, I consider that the failure of the boundary object of the feasibility study to produce expert consensus could be due to insufficient negotiations and consensus-building work between CCA advocates and North County Supervisors and publics.

On June 6th, 2018, Central Coast Power sent a communication to its listserv announcing that the new feasibility study results were in, and they were promising. Pacific Energy Advisors (PEA), the consultants hired to complete a follow-up study after the first by Wildan had failed to produce favorable results, had concluded that the CCA could “offer cleaner electricity at a comparable rate to Pacific Gas and Electric (PG&E) or Southern California Edison (SCE).” According to a prior communication from Amy Parker at the Community Environmental Council, “PEA is considered the most highly regarded and experienced consultant in the CCE arena today.” Advocates were instructed to keep July 17th clear for county and city meetings along the South Coast, and another Clean Energy Community Meeting was scheduled for July 11th at the Goleta Valley Community Center.

The meeting in Goleta was replete with familiar faces. Jennifer Cregar welcomed me at the door, and Brian Stevens was signing in as I walked in. I saw Amy Parker in line for the catered sandwich lunch as I entered the auditorium, and I said hello to Joseph Hayes. He was perturbed that the new study included the option to dip into “buckets” of energy that came from out of state, including unbundled RECs, and he was ornery that Das Williams snubbed him as he walked by. Josh Hudson was seated near Michael Chiacios, and I

305 Central Coast Power. Email Titled “Santa Barbara County CCE Study Now Available.” June 6, 2018.
306 Parker, Amy. Email Titled “County hires PEA for additional CCE study, City of SB hears Clean Power Alliance on 3/6.” March 5, 2018.
managed to get a seat near David Turner and one of the interns from the World Business Academy.

Cregar announced that the results of PEA’s study had been favorable. Unlike Wildan’s study, PEA’s had focused exclusively on Santa Barbara County. Since the last Clean Energy Community Meeting in January, Ventura had split off to join Los Angeles’s behemoth Clean Power Alliance, and San Luis Obispo and Morro Bay were exploring their own JPA, or possibly joining Monterey Bay Community Power. Like the previous study, the question posed by the feasibility study was, Can this program meet economic, social, and environmental standards at a competitive price? Since the last feasibility study, much had stayed constant. PCIA charges were still a major risk being hashed out at the CPUC, far from our sphere of influence, and though the new feasibility study had used slightly different models to calculate power costs, no major differences were borne there.

The most crucial difference was in the choice of PEA as the consultant firm to conduct the feasibility study. According to Cregar, PEA had worked with the majority of CCAs currently in operation, and their consultation had been essential in getting those programs off the ground. Josh Hudson had intimated to me, “People have a lot of confidence in this company.” PEA was also being considered a frontrunner to manage the program going forward. By appearances, it seemed that the advisory working group had decided to strategize a bit more for the success of the program. PEA brought with them not just expertise and substantially more skin in the game, but also a host of alternative assumptions that went into their pro forma analysis. Wildan had been conservative in their estimates of how large a reserve the CCA would need to start operations. In Cregar’s words, Wildan had operated “like an IOU” in that they were risk averse and cautious, anticipating fluctuating exit fees and the possibility of tumultuous financial ups and downs that would

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308 Hudson, Josh. May 8, 2018, (5:40).
necessitate a large cushion of capital from day one. Wildan had projected the need for a start-up reserve of up to $240 million, which would require a bond. PEA recommended a $9.3 million reserve, a loan easily procurable at a commercial bank that could be paid off within a year without interest. For Cregar, the bottom line was that, “every consultant has their own magic ball.” But both because PEA was recognized as a bearer of expertise, and because they had delivered results that were favorable to Santa Barbara’s CCA advocates, their magic ball was worth taking seriously.

At the same time, the program did continue to hinge on buy-in from areas in the PG&E service area in North County, and the firm resolve of South County cities of Goleta, Santa Barbara, and Carpinteria would not suffice to make a feasible program. To compete with SCE’s rates in their service area, the CCA’s power costs would need to be substantially lower than SCE’s rates, factoring in PCIA charges and hoping to make enough in reserves. Cregar explained that PG&E’s rates are more expensive, and so a CCA’s rates need not be as competitive if PG&E and SCE rates were considered in the CCA’s rates. In Cregar’s phrasing, PG&E had more “meat on the bone,” and a successful CCA would need to get that meat to make the whole program work. To be sure, North County customers paid more for their electricity, and so a CCA would likely mean cost-savings for them. Still, because North County residents did not have regular exposure to SCE rates in South County, those cost-savings would have to be communicated to them above and beyond the clamor against CCAs from PG&E and local conservative representatives. CCA advocates had been trying to set up meetings in North County, but so far they had been unable to carve out much space for advocacy or discussions.

In South County, there was a line of meetings scheduled for July, including a County Board of Supervisors’ Meeting, and City Council Meetings in Santa Barbara, Goleta, Carpinteria, and Buellton. The staff’s ask from the County was a resolution of intent toward financing and forming a JPA, and the ask of the municipalities was their consent to
participate in this JPA. Important and uncertain decisions were on the horizon, but those in the room expressed gratitude and hope that their project had legs.

On July 17th, 2018, Cregar and PEA presented the results of the new feasibility study to the Santa Barbara County Board of Supervisors. The first option presented to the Board was to form a new JPA for a new CCA program, comprised of both unincorporated parts of the County and its cities. This plan would be most feasible, begin with a $9.3 million loan secured from a commercial bank, and use general fund money on program formation that would be reimbursable if launched. The program would roll out in 2021. The second option would create a new CCA program only for the unincorporated parts of the county. They could break even in the second year of operation and would only require a $6.7 million start-up reserve, but the program would generate less money. The County would have greatest operational control over this option, but it would concentrate both risks and costs in the County. The third option would split the County by service district so that PG&E’s service area would join the existing program building momentum in Monterey, while SCE’s service area would join the program in Los Angeles. This option would mean that North and South County would operate under diluted local control, but the plan would shield the County from some risks. At the same time, it was unclear whether Los Angeles would be willing to take in Santa Barbara soon, since they were still working out logistics in Ventura and LA Counties. The staff recommended option one. Since the report of the first feasibility study, the Board’s support for the CCA had remained consistent, though each Board member’s reasons for supporting or rejecting the pursuit of the CCA had changed to accommodate the new study. Thus, the feasibility study had become a different kind of tool, to be used differently by the Board members but with the same outcome.

Supervisor Adam had originally opposed continuing the CCA study on the grounds that it was costly and unnecessary, a conclusion that had been at least partially supported by the feasibility study. Now that a different feasibility study had produced different results,
staying with his original commitment required that he challenge rather than affirm the validity of the feasibility study. At a minimum, he demanded that another consultant firm check the results of the new study to determine whether PEA’s assumptions and calculations were reasonable. Here, Adam contended that he was “not going to apologize” for observing a conflict of interest with PEA’s feasibility study and its consideration as a frontrunner for managing the program going forward. For Adam, PEA’s expertise and commitment mattered less and even undermined its objectivity. With these results, Adam could no longer use the study to explain his repudiation of the program, but instead was forced to use the subjectivity of the study to delegitimize it.

Lavagnino had rejected the last push for the CCA due to lack of public interest, faith in state regulators and the IOUs in delivering green energy, and the resounding failure of the first study. Now that the study’s forecast was promising, he dramatically reshaped his critique of the program. His new strategy was to call into question the expertise of PEA, by appealing to the CPUC’s Green Book, a document recently released that expressed concern over the advance of CCAs across California. The Green Book cautioned that as CCAs spread, they will progressively fragment the energy procurement model (Colvin et al. 2018). Without a coherent and comprehensive plan, another crisis could strike. Again he emphasized that the system is working, and that California is making important strides toward green energy. In light of this progress, and the low rates Californians currently enjoy, no benefit ushering from the CCA would overcome the risk associated with its adoption. In sum, Lavagnino’s general approach to the CCA issue remained constant, though he could no longer use the feasibility study to legitimize his position. Instead, he appealed to a higher authority — the CPUC — and its expertise to explain his rejection of the program.

Wolf was prepared once again to back the CCA, but on different grounds. Wolf had previously refused to “give up” despite the negative results of the first study, such that
Wolf’s commitment to the CCA bore no relation to the particular results of the study. In previous hearings, she had urged the pursuit of results that could legitimize the program; now that such legitimation had been found, she declared, “This is our time.” Hartmann had taken an almost identical stance as Wolf on both occasions, and now also argued that the coming months and years would offer additional off-ramps should reassessment be necessary. Williams too doubled-down on his arguments in support of the CCA.

From here, there was conversation among the Board members as to what kind of review process PEA’s study should undertake. Adam requested an additional peer review before moving forward, which was rejected by Williams. Cregar clarified that the traditional process of implementing a CCA is to update the feasibility study as the group moves forward. Satisfied, the Board voted on pursuing the first option to form a JPA comprised of the County and interested cities. Once again, the Board voted 3-2 in favor of the JPA. Since the previous feasibility study, no actors had changed their position on the CCA.

In sum, the expertise of feasibility consultant groups mattered for the supporters of the CCA insofar as they desired a set of favorable results as a technology of legibility to move forward with their new energy procurement function. For supporters of the CCA, it appeared as though the process of the feasibility study did not function to actually test whether the CCA would work. Instead, the study served as a boundary object that could serve as expert evidence to support what the County and CCA advocates wanted to do anyway. Likewise, for its detractors, the studies had not served to convince them of anything they didn’t want to believe to begin with. In either case, the feasibility study was taken at face value precisely when, from the perspective of advocates and detractors, it was favorable to do so.

The similarities between the decisions made following the feasibility studies suggests two possible lessons. First, the public discussions surrounding the feasibility studies provides an important glimpse of how different advocates behave when the policy burdens
of eco-modernist constraints come to bear. While some groups flirted with strategic compromises on energy democracy aspirations, the feasibility study process also demonstrated how weak those policy constraints actually were, and how pliable consultants’ models are, when political will could be mustered in support of substantive commitments. This revelation is promising to those advocates concerned that goals may be easily overridden by too technocratically focused decision-making. In a word, boundary work and boundary objects are much more contestable than sometimes imagined. As the next section shows, the eco-modernist policy constrains on CCAs can be quite fierce; but as the CCA confronts even greater obstacles in the coming months and years, advocates would do well to remember that actors within policymaking retain the agency to strategize and participate in the creation of programs, and that through strategy and negotiation, those programs may be made workable.

The political response to the study also demonstrates a weakness in the feasibility study as a way to achieve expert consensus. While the favorable results allowed supportive Supervisors the legitimacy to pursue the CCA, no Supervisors changed their fundamental position vis-a-vis CCAs. The studies had convinced no one, though they had enabled action when the majority opinion had secured its boundary object. It is not within the scope of my data collection to determine precisely the kinds of negotiations that occurred in the development of the first failed feasibility study, but from the testimony of my participants, it is clear that consensus had not been reached among all interests in the County before the matter came before the Board. Crucially, North County had barely been engaged in the movement, and opportunities to present the CCA in language that could be appealing to conservatives — such as by emphasizing local control and autonomy from state-level regulatory bodies — were not seized. In a word, the feasibility study had been presented as a boundary object, with accordant claims to expert knowledge, but it had not been the product of negotiation.
E. Chapter Five: Utility Dominance and Utility Dependence

In her statement to the Santa Barbara County Board of Supervisors Meeting on October 3rd, 2017, after the results of the first failed feasibility study were presented, Southern California Edison government affairs representative Kelly Hunter stated, “For the record, Southern California Edison is completely neutral on CCE, we support customer choice, and we’ve hopefully worked very closely with the County on the data collection and all of that.” Hopefully, she might have said, the County is convinced that we too have done our due diligence. From SCE, the feasibility study required data on power costs and capacity requirements, but the CCA’s dependence on its incumbent IOU, SCE, ran much deeper and would be much more long-lasting.

As per CCA policy, incumbent IOUs would still manage transmission and distribution infrastructure. As such, while CCAs may entail and even strive for dramatic transformations in generation and distribution infrastructure, they have the luxury of pursuing infrastructure projects at their own pace, and as revenues permit. Start-up costs include mostly power costs, which are passed on to customers, and staffing costs, which are relatively low. But while this strategy minimizes financial risk while carving out a larger role for publicly-accountable actors, it also requires continued engagement with IOUs.

Moreover, the IOU would remain the provider of last resort in the case that the CCA failed to procure adequate energy or if customers decided to opt out of the CCA. Here, the relevant eco-modernist CCA policy constraint is the protection of existing business interests, i.e. the IOUs, which is legitimized through appeals to customer choice and having minimal impact on consumers. “Customer choice” draws on the ideology of the free market not simply to secure options for customers, but more importantly to keep IOUs in the game.

309 Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (8:00:55).
Meanwhile, as this section will demonstrate, keeping IOUs at the table poses important problems for CCAs.

These material and ideological commitments that keep IOUs at the table are bought at great cost, since IOUs’ continued existence legitimizes PCIA charges, which as the previous section has demonstrated, means that CCAs must acquire energy at rock-bottom prices. By keeping CCAs financially starved, IOUs can thus ensure that CCAs have no revenue left over to engage in the kind of grid projects that would actually pose an existential threat to IOUs and make good on the promises of energy democracy. In this section, I evaluate the consequences for energy democracy aspirations of keeping IOUs at the table through the imposition of PCIA charges. PCIA charges exist at the nexus of two important tendencies within energy policy: IOU capture of regulatory bodies that protects corporatist arrangements between existing business interests and even oppositional movements, and faithful adherence to free market ideologies of choice and low costs that serves to protect those existing business interests. Taking the matter of PCIA charges as just one important and illustrative case among a broad range of tactics used by IOUs against CCAs, I examine how PCIA charges are legitimated both by material necessity in keeping with eco-modernist tendencies within CCA policy and by free market ideologies that reduce community members to consumers while pushing more complex interests to the side. Most importantly, I demonstrate how ideologies of customer choice and consumer protection are weaponized against the more radical, energy democracy aspirations of CCAs. These tactics run counter to the concept, if not the practice, of free markets, and instead build corporatism within energy systems. I conclude with an inquiry of corporatism, grounded materially in eco-modernist policy constraints, as a possible explanation for CCA advocates’ aversion to fully challenging IOU maneuvers or proposing more radical solutions to those conflicts between IOUs and CCAs that keep CCAs financially starved. In sum, I argue that material constraints, rooted again in the eco-modernist constraints of CCA policy, have
acquired among CCA advocates an ideological valence that jeopardize CCA as a program for energy democracy.

1. The IOU Business Model

Before exploring the ongoing conflict between IOUs and CCAs, it is useful to get a sense of the contemporary IOU business model. The chief elements in IOU operation are generation, procurement, transmission, and investment, and each element of that model interacts differently vis-à-vis CCAs. In some cases, IOUs remain unthreatened by CCAs, while at other points CCAs pose an existential threat to IOUs. Comprehending the IOU business model is essential to understanding how IOUs have crafted their opposition toward CCAs, in particular the tactic of keeping CCAs financially starved. Anemic CCAs are limited in the extent to which they may engage in the construction of DERs, which this analysis argues is the most serious conflict between IOUs and CCAs.

To begin, IOUs do not generate substantial revenues from power costs associated with generation and procurement. While originally IOUs managed both generation and transmission of electricity, with California’s initial deregulation attempt, generation and transmission functions have been decoupled.\(^{310}\) Since then, IOUs have moved away from generation, and now often procure energy from third party energy service providers (ESPs) instead of generating it for themselves. Still, between PG&E and SCE, the two incumbent IOUs in the new proposed CCA service area, there are significant differences in their orientation toward energy generation. While SCE has shifted away from generation,\(^ {311}\) procuring most of its energy from ESPs, “PG&E is still in the generation game, so they have been threatened by CCAs from the get-go.”\(^ {312}\) Additionally, since California’s initial deregulation attempt, IOUs have been prohibited from making money on volumetric sales

\(^{310}\) Hunter, Kelly. February 7, 2018, (43:30).
\(^{311}\) Parker, Amy. September 14, 2017, (35:00).
\(^{312}\) Becker, Chloe. September 8th, 2017, (Part I, 36:00).
of electricity, and so now energy generation is a pass-through cost to IOU customers.\textsuperscript{333} For the same reason, SCE does not make money on procurement.\textsuperscript{314} Because IOUs do not make money directly from generation or procurement, IOUs, and SCE in particular, are largely unthreatened by CCAs insofar as they are only procuring entities.

At the same time, IOUs make money off of generation in different ways. When new assets are built, IOUs apply to the CPUC to recover their costs, plus a guaranteed rate of return (Stokes 2015). For this reason, utilities favor large projects that they build or contract for themselves, and they argue that economies of scale justify these large projects (Stokes 2015). To fit the utilities’ profit structure, especially when dealing in renewables, these massive plants must be located far from sites of consumption, often in desert ecosystems and rural communities that are not necessarily served by that production (Stokes 2015). In sum, because they make profit off of new capacity, IOUs’ business models favor centralized systems and expansion of infrastructure and shuns decentralized local generation.

Investor-owned utilities remain hostile to distributed generation for reasons having to do with their transmission systems as well. Because the grid in California has not been made a public asset, IOUs make money on the energy that is transmitted across the grid (Stokes 2015). Insofar as CCAs continue to use IOU transmission lines, CCAs do not necessarily challenge IOU profits.\textsuperscript{315} However, as CCAs make good on their promise to develop and promote local renewable generation such as DERs and rooftop solar, IOUs have reason to act defensively. Energy transmission systems, from which IOUs generate much of their revenue, terminate in local substations, at which point the energy enters the distribution grid.\textsuperscript{316} IOUs do not make money on energy that does not travel across transmission lines.\textsuperscript{317} Thus, IOUs are threatened by energy that is generated within the

\textsuperscript{333} Hunter, Kelly. February 7, 2018, (1:01:30).
\textsuperscript{314} Ibid, (59:30).
\textsuperscript{315} Becker, Chloe. September 8, 2017, (Part I, 35:00).
\textsuperscript{316} Ibid, (Part I, 36:00).
\textsuperscript{317} Ibid, (Part I, 35:00).
distribution system. In this way, CCAs pose a threat to IOUs precisely insofar as they undermine the power over transmission that is inscribed in the macrogrid and pursue the development of local microgrids that decentralize power and reverse the polarity between sites of consumption and sites of generation.

Local renewable generation threatens IOUs’ business models through altering the landscape of generation and transmission, but there are also more subtle ways that CCAs impact IOUs. IOUs make money from investments, such as through projects like grid modernization,\(^318\) and even investments from procurement. In the words of Josh Hudson, “There’s just so much money that flows through the utilities. [...] It’s hard to trace where all the money’s going.”\(^319\) In a sense, because so much of IOUs’ business model is tied up in investments, where IOUs generate revenues is irreducible to either generation or transmission. Throughout my study, I was struck with the opacity of SCE’s business model. When described by Kelly Hunter from SCE, it was difficult to see how the IOU made any money at all; when described by advocates of the CCA, responses were confused, as if IOUs generated money by sleight of hand.

Perhaps because IOUs depend so much on public faith crystalized in investments, legitimacy in the eyes of the public and local governments is paramount for the IOUs. They often maintain strong ties to communities through charitable divisions as a way to “maintain their status and legitimacy within the regulatory process” (Stokes 2015, 116). To that end, SCE has also worked hard to demonstrate its neutrality vis-à-vis CCAs and present themselves as cooperative partners. At the initial feasibility study results hearing at the County Board of Supervisors in fall of 2017, and in a private interview with their government relations representatives, Kelly Hunter, SCE has claimed that the corporation is “supportive of customer choice.”\(^320\) Hunter of SCE stated that, unlike PG&E, SCE had

\(^{318}\) Stevens, Brian. May 9, 2018, (57:31).
\(^{320}\) Hunter, Kelly. February 7, 2018, (45:30).
“not fought any CCAs in our territory. We’ve actually partnered with them, and I believe we’ve had positive reviews on our partnerships in implementing those.” Cooperation with communities and local governments is an important part of their public face.

At the same time, the history of interactions between IOUs and CCAs is fraught, and Samuel Jung notes that “obstructionist utility intervention has been one of the most significant barriers to the realization of community choice aggregators in their short history” (Jung 2017, 23). When asked about groups opposing CCAs, Cregar stated, “The IOUs are trying to protect their market share. Some of them will say publicly they’re neutral on it, but they’re doing things behind the scenes that would suggest they’re not.” In light of Cregar’s remark, Hunter’s assertion could be understood as performing cooperation while any number of more clandestine moves are made against CCAs through obfuscated market and legislative moves.

In sum, CCAs pose the greatest challenge to IOUs when they become capable of advancing local microgrid generation and when they create new public institutions that operate independently of IOUs and their kept regulatory body, the CPUC. While SCE might feign neutrality on the question of CCAs, we can expect conflicts as CCAs develop into autonomous entities with institutional power of their own, such as the power to recreate the grid to reflect energy democracy aspirations. Further still, CCAs may pose a threat to IOUs’ dominance in regulatory bodies as they send ripples of regulatory change to the state level as well (Weinrub 2017). In one scenario offered by energy democracy scholar Al Weinrub, CCAs could even usher in new public institutions autonomous from IOUs to manage the grid (Weinrub 164). As such, it makes good sense for IOUs to beat back the specter of CCAs while they still have the market power and regulatory influence to do so.

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321 Ibid, (45:00).
322 Cregar, Jennifer. October 6, 2017, (39:00).
2. The PCIA Threat

One of the most important ways that IOUs assert dominance over CCAs is through the imposition of power charge indifference adjustment (PCIA) charges. PCIA charges are designed to compensate IOUs for their long-term contracts that are cut short prematurely by the emergence of new CCAs, and they are levied against those who comprise IOUs’ departing load. When communities break long-term contracts with IOUs, IOUs are left with energy they have contracted for, but no longer have customers to buy. In essence, PCIA charges shield IOUs from financial loss caused by customers switching to CCA services (Burke et al. 2005). Whereas current IOU rates contain only transmission and generation costs, CCA rates will contain transmission rates paid to IOUs, generation costs paid to ESPs, and PCIA rates, paid also to IOUs. In this way, by some estimates, PCIA charges could increase ratepayers’ total electricity bill by 14% (Jung 2017). In Santa Barbara’s first feasibility study, they were cited as a major driver of infeasibility. In this section, I will explicate the nature of the threat posed by PCIA costs against CCAs and demonstrate how the regulatory body of the CPUC has enabled the weaponization of PCIAAs against CCAs. The simple expense of PCIA charges, along with the risk brought on by their inconsistency that has failed to be addressed by regulatory bodies, interact to create conditions unfavorable to CCAs and even fatally damaging to prospects for developing distributed energy resources.

Power charge indifference adjustment charges are concerned with energy contracts rather than actual energy bought and sold,\(^\text{323}\) and so CCA customers do not need to compensate IOUs for the entire cost of the energy contracted for. Instead, IOUs calculate PCIA charges by taking the amount they originally bought the electricity for and subtracting the amount that they could sell that energy for on the day the CCA launches.\(^\text{324}\) PCIA charges are kept high in part because IOUs have been encouraged to engage in long-term

\(^{323}\) Romano, Mary. September 20, 2017, (21:00).
\(^{324}\) Cregar, Jennifer. Santa Barbara County Board of Supervisors Meeting. Santa Barbara County
contracts, which are driven by a number of policies. During California’s deregulation experiment, one of the most important missteps was allowing the electricity market to be dominated by expensive short-term sales that were secured under crisis conditions by CAISO. Thus, in the wake of deregulation, IOUs were incentivized by the CPUC to pursue long-term power purchasing (Burke et al. 2005). Further, in an effort to stimulate growth in the renewables sector, the state has instructed IOUs to engage in long-term renewable energy contracts. In the minds of SCE, their “hand was forced into those contracts at that time no matter the cost.” The CPUC must approve all contracts, and it can issue directives to procure capacity, a process that is informed by CAISO. Because renewable energy costs have declined significantly over the past several decades, IOUs are still saddled with twenty and thirty-year contracts for energy that is now significantly cheaper.

Figure 9. Generation Costs, Original Purchase Price vs. New Sale Price with PCIA Charge

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325 Cregar, Jennifer. October 6, 2017, (43:00).
327 Ibid, (53:00).
328 Cregar, Jennifer. October 6th, 2017, (43:00); Romano, Mary. September 20, 2017, (21:00).
That difference in price over a twenty or thirty-year period is reflected in PCIA charges, diagrammed in the reproduction of Figure 9. At the same time, in an effort to hedge risk against prices changing in the market, IOUs also engage in short-term and mid-term contracts, meaning that energy contracts range from one year to eight years to twenty or thirty years. IOUs that ride more on the current market, such as SCE, will lose less money in departing load than IOUs such as PG&E, which has engaged in longer term contracts, at least where energy prices continue to decline.

IOUs also continue to engage in contracts for energy because IOUs are required to be kept by CCA territories as a provider of last resort. This requirement is connected to new emphasis on reliability. Reliability is not synonymous with resilience, which refers to energy independence especially in cases of natural disasters or macrogrid outages. Instead, reliability refers to redundancy, so that if suddenly there is an increase in demand, enough energy has been procured to cover that spike. The conversation around reliability has tended to favor gas-fired plants, which are considered easier to ramp up than renewable sources. Thus, even though California currently has so much solar generation that it is paying other states to take the energy off our hands, that energy does not necessarily satisfy reliability requirements in the eyes of consultants such as Wildan.

While IOUs are mandated to cooperate with CCAs on paper, if IOUs engage in more long-term contracts, they will effectively diminish the feasibility of CCAs and mop up CCAs' significant economic and community benefits along the way. Because a CCA rate must swallow PCIA costs as well as generation and transmission rates while remaining cost-competitive with IOU rates, a CCA would need to “procure electricity from an ESP at a cost

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329 Cregar, Jennifer. October 6, 2017, (43:00).
330 Ibid, (42:00).
331 Romano, Mary. September 20, 2017, (23:00).
333 Ibid, (37:00).
334 Ibid, (37:00). This source indicated that the real problem with overproduction that has caused California to sell solar at a loss to other states is the PUC’s greenlighting unnecessary gas-fired power
below the market price charged by the IOUs” (Burke et al. 2005, 12). In 2016 the CPUC doubled PG&E’s PCIA, and it increased again in 2017 (Weinrub 2017). Wildan’s feasibility study found that PCIA charges could be anywhere from $75 per year for ratepayers with standard load in SCE territory and up to $200 per year for PG&E customers. In cases where CCAs are able to attain ESP prices below the price charged by IOUs, all savings would essentially go to IOUs until all stranded assets are paid for (Burke et al. 2005). In this way, PCIA charges limit the extent to which CCAs can pursue the principal technological aspiration of energy democracy: distributed energy resources. As such, SCE’s strategy against CCAs is aimed primarily at limiting the extent to which CCAs are capable of engaging in more transformative electricity arrangements.

PCIA charges impact the feasibility of CCAs not only by raising prices for CCA ratepayers but by introducing uncertainty into CCA implementation plans. PCIA costs vary according to current market prices, and so their exact amount is difficult to predict. Ultimately, the actual dollar amount of the PCIA varies from year to year, and cannot be determined definitely until the CCA program launches. PCIA charges constantly fluctuate with the price of energy, making PCIA charges one of the biggest uncertainties with a CCA program. Knowledge regarding when long-term contracts are commenced, when they expire, and the effect on PCIA costs is crucial in planning a CCA program (Burke et al. 2005). At present, “much of the information regarding current utility procurement of energy is kept confidential and inaccessible for those communities wishing to form a CCA” (Burke et al. 2005, 22). In the case of SCE, such information is effectively withheld from government planners because SCE representatives that interface with local governments are not allowed to receive information about long-term contracts, which effect PCIA rates. By plants, leading to overcapacity (37:00).

335 Cregar, Jennifer. Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (5:52:06).
keeping utility and market functions separate, actors within SCE can feign ignorance of the company’s own operations. In this way, the representative I spoke with from SCE was able to dodge questions regarding how the company chooses to engage in short or long-term contracts: “It’s separate, we keep a very separate, fine line,” Hunter concluded. “A distinct line, you might say,” she said, correcting herself.

PCIA charges are far from straightforward, leaving IOUs ample opportunity to adjust calculations to their benefit. In his work, Jung argues, “The current methodology that dictates the way the PCIA is calculated is not transparent and does not hold utilities accountable to any third-party auditor, which in turn produces a PCIA value that may not clearly reflect only the costs associated with procuring electricity on behalf of customers who have switched out of utility’s service program” (Jung 2017, 45). Actors within the CCA community have also often found the PCIA setting process to be opaque (Digitale 2017b). Carr of the Sierra Club noted that while SCE “hasn’t come out publicly against CCAs, they may do things behind the scenes to drive up exit fees.” CCA advocates “have found the underlying assumptions that went into calculating the different factors of the charge to be opaque” in the case of Sonoma Clean Power (Jung 2017, 37). Sonoma Clean Power (SCP) has struggled with PCIA charges since its inception. According to sources at SCP, PG&E has made insufficient attempts to lessen their surplus power costs to keep PCIA rates high (Digitale 2017a). PCIA charges can also be manipulated by IOUs by shifting costs from transmission to procurement, which allows them to advocate for higher fees. In short, many manipulations are possible as IOUs calculate PCIA costs, and these costs serve to undermine CCA program options.

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338 Hunter, Kelly. February 7, 2018, (33:00).
340 Ibid, (34:30).
341 Ibid, (34:30).
343 Ibid, (32:00).
PCIA charges are ultimately determined through formulas approved by the CPUC at the utilities’ rate-setting meeting every year. Because the CPUC sets much of the policy regarding CCAs, this regulatory body requires some attention now. First, it is worth noting that many of the risks and uncertainties associated with CCAs, as well as their solutions, rest in CPUC regulation. The CPUC could do much to enable the feasibility of CCAs, such as by shifting funds from public goods costs to CCAs, opening up long-term contracts held by IOUs to CCA purchase through “in-kind” power shares, and resolving some of the uncertainties regarding PCIA charges, or by “limiting procurement of long-term power contracts once a community declares its commitment to forming a CCA” (Burke et al. 2005, 23). However, historically the CPUC has been tasked with defending the natural monopoly of IOUs, and this legacy persists today. On this point, CPUC President Picker is most eloquent:

And the question is, where do we need to maintain that monopoly? That’s what my agency does. We award monopolies where there’s not a market and then we protect them against ruinous or calamitous competition. That’s the language that’s embedded in our bone and in our blood from the 1910s. There was a thought that that was the best way to mobilize capital – you created a monopoly and you enforced it (from Weinrub 2017, 156).

Because PUCs were originally proposed by utility moguls and were designed to protect while legitimizing the existence of natural monopolies, it is small wonder that the CPUC has failed to encourage the growth of CCAs by minimizing or even stabilizing PCIA rates. Indeed, in shifting the terrain of struggle to regulatory bodies, IOUs have essentially moved negotiations to entities wherein they already have significant leverage and hold disproportionate influence. The CPUC, committed to IOUs, has used its power to sow risk for CCAs.

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In the context of CCAs, it is worth considering two important sources of risk. On one hand, any new venture brings inherent risk. As Hayes of IBEW commented, any long term procurement brings risk, since “the world changes so much in five years.”\(^{345}\) This risk is still greater in that local governments have no prior expertise in energy procurement.\(^{346}\) Still, the risks that CCAs confront vis-à-vis caustic regulation regarding PCIA rates is different from the ordinary risk of operating a business, since not only must CCAs gamble on energy markets, but they must beat back assaults from those entities that are designed to regulate them. This risk is not rooted in chance, but emerges from targeted assaults from IOUs capable now of wielding their capture over the CPUC against CCAs. This risk is regulatory risk. And, unlike the risk of starting a new venture, regulatory risk is entirely avoidable.

In Santa Barbara, regulatory risk in the context of PCIA rates, as well as other policies, is one of the principal concerns confronting the CCA. Shortly after the results of the first feasibility study were presented to the County Board of Supervisors, Cregar offered, “I think the biggest barrier right now is it’s a really risky undertaking.”\(^{347}\) Cregar proceeded, \\

\[\text{We’re seeing a ton of regulatory and legislative activity trying to slow the tide or stop it all together [...] That’s scary! ’Cause we don’t know what the rules are going to be. They are not well-defined right now. They are very likely to shift radically within the next couple of years because of all this legislative and regulatory activity. There are several open proceedings with the California Public Utilities Commissions on topics that are significant drivers of whether or not CCE could work. The biggest being is looking at that exit fee, that PCIA that I talked about on Tuesday. That’s probably gonna be totally re-done. We don’t know what it’s going to look like.}^{348}\]

PCIA charges are an important instance of how regulations managed by centralized bodies can keep local initiatives in a state of suspension and thereby undermine the ability of local actors to proceed safely with their goals. Insofar as PCIA charges are determined by regulatory bodies that do not answer to local actors, and are taken at face value as a

\(^{345}\) Hayes, Joseph. October 19, 2017, (5:00).
\(^{346}\) Cregar, Jennifer. October 6, 2017, (37:00).
\(^{347}\) Ibid, (36:30).
\(^{348}\) Ibid, (37:30).
necessary component of a CCA program, CCA implementation plans will exist in constant jeopardy.

The odious weight of regulatory risk upon CCAs should raise the ire of any CCA advocate, for here we see the bodies supposedly oriented toward cultivating public goods captured by private corporations and manifesting environments unfriendly to CCAs’ successful implementation. Regulatory bodies are designed to depoliticize conflict and resolve issues; this analysis shows that the CPUC goes beyond this basic dysfunction and has in fact generated risk borne by CCAs by with withholding decisions and keeping key questions regarding CCAs in suspense while retaining the authority to manage their affairs. The crucial point here is that regulatory bodies are capable of undermining burgeoning movements not simply by resolving policy against them, but by not resolving policy at all: by simply holding authority over them. Regulation by a centralized authority itself, rather than the substance of those regulations, is sufficient to cultivating uncertainty in this movement for local control.

3. Material and Ideological Legitimation

While PCIA charges are designed to protect IOUs, they are taken for granted as legitimate by actors across the board. In my conversations with supporters of CCAs, efforts to “keep them whole”\textsuperscript{349}, referring to IOUs, were never challenged outright, though most participants interviewed expressed concern that the particular calculations of PCIA charges were opaque. Thus, like the feasibility study, while particular outcomes were challenged by actors frustrated by the standard operations of CCA evaluation, the fundamental purpose of those evaluations — to sustain commitments to cost-savings and customer choice, respectively — was never assailed. Moreover, even those actors who were critical of IOUs perceived that their continued existence was necessary to proper CCA functioning. Here, I

\textsuperscript{349} Parker, Amy. September 14, 2017, (36:00).
argue that PCIA rates are legitimated both materially and ideologically as actors grapple with the eco-modernist constraints of CCA policy as well as prevailing norms and values favoring the free market, which uses commitments to customer choice to keep energy rates low. At the same time, I argue that keeping IOUs at the table is not a manifestation of free market principles, but ensures corporatist relations to protect IOUs from a loss at the expense of actually free markets.

In my interviews, CCA advocates communicated both material and ideological justifications for keeping IOUs at the table and thus embracing PCIA charges. On a material level, the solvency of IOUs is crucial to CCA operation. CCAs are an attractive means of securing public oversight over electricity because the start-up costs are relatively low. Start-up costs are low precisely because IOUs are still tasked with transmission and distribution. IOUs must be kept at the table for CCA programs to achieve public power more easily, if less completely. As Becker argued, “It’s important to offer folks the opportunity to opt out. And CCAs wouldn’t be CCAs if they didn’t, right? [...] If we wanted to do full local control, it’s just a much heavier lift.” CCAs are also a political low bar to clear because IOUs are still relied on as providers of last resort should ratepayers opt out of a CCA, or should a CCA collapse. By keeping IOUs in the game, local governments can hedge their risk politically and financially. At the same time, while keeping IOUs solvent makes CCAs an attractive, low-risk option for approaching public power, keeping IOUs at the table also entails making concessions to their financial well-being, often to the detriment of CCAs.

In this way, CCA advocates’ support of PCIA charges and keeping IOUs in the game is shaped around the structural constraints imposed by those eco-modernist elements of CCA policy. Eco-modernism is dedicated to maintaining existing business interests and ostensibly keeping markets free and open to customer choice as a way to keep costs low. These commitments are satisfied by keeping IOUs in the game. Shaping their strategy to
these structural constraints, CCA advocates do not challenge PCIA rates simpliciter, though they rail against how in particular they are calculated. Beyond concessions to these structural constraints, CCA advocates’ support for PCIA charges is also wrapped up in ideologies of the free market. Throughout the various forums, interviews, and presentations I witnessed, the rhetorical device of customer choice and the competition it supposedly brought to the energy system was used to promote CCAs. In this way, the eco-modernist constraints of CCA policy both proved a burden to the CCA and helped ideologically legitimize the movement.

In real terms, however, customer choice and competition meant a closing of opportunity for CCAs as they scrambled to keep costs low to compete with IOUs. Far from cultivating competition, eco-modernist and free market ideologies crystallized in CCA policy to trap CCAs in corporatist bonds with IOUs and guarantee IOUs’ perpetuation. While ideologies of the free market abound, PCIA charges themselves ensure that IOUs are not expected to take responsibility for their risk. Instead, it is taken for granted that PCIA costs will be passed on to customers. Those customers are in turn used by IOUs as a human shield against CCAs, as will be explored below. Thus, while PCIA charges are legitimated by reference to free market ideologies of customer choice, they end up legitimizing a process whereby IOUs secure their seat at the table with CCAs.

A fair amount of this discursive work is done by centering the supposed needs of the customer. PCIA charges, in the IOU’s framing, are a means to ensure that all customers are treated fairly, whether they acquire service through the CCA or remain with the IOU. Hunter emphasized, “While we support customer choice, and CCAs, we do think that there has to be equity in that departing load.”351 She continued, “We have contracted for power for as many people live in this area. So, if all of a sudden those, I think roughly eighty-five

350 Becker, Chloe. September 8, 2017, (Part I, 41:00).
351 Hunter, Kelly. February 7, 2018, (48:00).
thousand customers [leave], those left within the system shouldn’t be left holding the bag, per se. So, we can’t increase the costs on everyone who’s left in the system because these people decide to leave.”359 In SCE’s framing, the energy that SCE has contracted for must be paid for, even though no actual energy or money has changed hands.353 Rather than take the loss on the defunct contracts themselves, SCE presents only the possibility that they would distribute the cost among their remaining customer base or among the CCA customer base. From here, SCE performs fairness by distributing that cost among CCA customers. Rather than take the loss on risky long-term contracts themselves, SCE passes that risk along directly to those who break the contract by remaining in the CCA.

This solution diverges significantly from that set of capitalist values attuned to risk and reward. Hunter explained PCIA charges from the perspective of the IOU through an analogy of a lunch party at a restaurant. Here, any resonance with free market thinking vanishes. Hunter explained,

If you were all at a restaurant with seven or eight friends, and we all ordered food, and two or three people got up before the bill came, now everybody else has to share the tab of what’s left. And they just left without offering any money or leaving. So, we just wanna make sure they pay their fair share. So you’re leaving the system, fine [...] You’re fine, you can leave, yeah, we’re not holding you hostage here. You can leave. But you gotta pay your fair share. Before you leave. [laughs],354

The first problem with Hunter’s analogy is that SCE continues to engage in long-term contracts for energy. As such, there is no clear timeframe in which PCIA charges may be sun-setted. Thus, PCIA charges will not simply be paid once “before you leave.” I pressed Hunter on this issue:

MBC: It seems like if you have more long-term contracts, then that would make it harder for a CCA to establish, right? Because you’ve put out that much more money, and so that’s like, continuing with your analogy, that’s like, right before everyone gets up to leave, ‘Hold on, let’s order champagne!’ You know?

352 Ibid, (49:00).
353 Romano, Mary. September 20, 2017, (21:00).
KH: Right. Right, it is. And like I said, I mean, we, these contracts are entered into, in good faith, for all of our customers that we have. And so, if whenever people cut out, we just can’t leave the rest of the ratepayers holding the bag. Because I mean it is ultimately the ratepayers that are paying.355

While Hunter did not disagree that PCIA charges make it harder for CCAs to become established, she asserted once again that, regardless of the decisions of the IOU, ratepayers would be responsible for the contracts engaged in by the IOU. If free market ideology rests on the myth that rewards are won through risk, and that risk bears its own responsibility, the PCIA charge is actually a subversion of the free market.

Hunter notes that the diners in her analogy are not hostages, while also recognizing that PCIA charges make it hard for diners to leave. Her analogy is clearly flawed, and can be amended in the following way. Imagine instead a group of diners who can only acquire food by going to a restaurant. They have their own kitchens at home, of course, but they can only use their kitchens between certain hours, and they don’t have refrigerators to store food, so they may as well eat out. There is only one restaurant in town. The manager of the restaurant counts the number of people who come into the restaurant and orders the kitchen to begin preparing meals before the diners even have a chance to sit down. Just then, a few of the diners see that there is a new restaurant across the street with comparable prices and more ethically-sourced food, and they decide to check it out. The manager of the restaurant declares that, if they leave, they’ll be forcing all the other diners to split the cost of the entire meal, which they hadn’t even ordered. Before they can freely leave, the manager demands that they pay for their share of the meal, or else the diners who stay at the first restaurant will be left holding the bag. This scenario resembles little the free market, and instead brings to mind a Kafka-esque authoritarian hellscape that many, I imagine, would be very happy to leave behind.

355 Ibid, (51:30).
4. We Are More Than Consumers

PCIA costs are designed in part to keep IOUs whole to allow customers to opt out of the CCA to the incumbent IOU, thus enabling customer choice. As has been demonstrated, the ability for customers to opt out of CCAs forces CCAs to pursue rock-bottom rates. This commitment is both perfectly in line with eco-modernism, in that it is a business model designed to be minimally impactful to consumers while maintaining existing business interests, and it allows the IOUs to hide behind the will of the market as CCAs scramble to cut costs. Meanwhile, all other substantive commitments of CCAs are made secondary as the free market precludes all but the cheapest options. As a result, PCIA charges starve CCAs and limit their capacity to engage more expensive projects that deliver social benefits such as DERs. What’s more, consumers are used as a kind of human shield, as the motives of predatory IOUs are recast as measures to protect the low rates of their customers. With this flattening of public concerns to the availability of cheap, abundant energy, *homo politicus* is replaced by *homo economicus*. In this section, I will complicate the subjectivity of the community member and suggest that while an economic system designed to pitch to the bottom line may satisfy narrowly-defined consumer demands, such systems are injurious to members of the public as complex agents and to workers in particular. I argue for community members’ reconstitution as effective political actors, capable of holding complex assemblages of commitments, an aspiration made a bit more possible through the implementation of CCA.

Dogged commitment to low rates for energy will not deliver local jobs, a modernized grid, rigorous renewable standards, or anything like energy democracy. Still, from the perspective of actors on both the IOU and the CCA side, as well as politicians and policymakers, low rates gained through adherence to the bottom line is the standard for customer satisfaction. It is worth interrogating this assumption. On one hand, low rates are good for consumers, particularly those who are economically marginalized, and many
ratepayers are in such financial straits that an extra $15 on their electricity bill could become a concern. Further, customers are used to seeing low rates on their bills, and if they see their rates go up, they might exact revenge on politicians — especially if they are prompted by IOUs. At the same time, ratepayers are more than consumers. They are community members who may desire resilient communities with energy sources close to home and under their control. They include people fighting for a livable planet. High energy consumption patterns that now imperil the climate feed off of a legacy of cheap, abundant energy, to which continued dedication will jeopardize both habitable planetary conditions and, I argue, the successful implementation of a CCA. From here we must ask, what are we willing to trade to secure low energy bills and preserve the free market?

Focusing entirely on the community member *qua* customer also invisibilizes the community-member *qua* worker. The technological and infrastructural promise of CCAs is that they will provide the revenues and expertise for communities to engage in local build-out, which will incur economic benefits to communities in general and building trades workers in particular. In my correspondence with Joseph Hayes of the International Brotherhood of Electrical Workers (IBEW) Local 413, he affirmed this connection between labor and environmental concerns vis-à-vis CCAs: “Good paying local union jobs are critical to community sustainability across the board.”\(^{356}\) The IBEW worked closely with environmental groups and Supervisor Williams’s office to ensure that local generation was a priority with SB350, and they have long been engaged in the push for the CCA.\(^{357}\)

CCAs bear the potential of uniting labor and environmental concerns by manifesting a new push for local renewable generation. However, if CCAs are kept anemic, they will be incapable of making good on those promises. Further, environmental commitments that do not bear with them prescriptions for local power may actively endanger workers’ job

\(^{356}\) Hayes, Joseph. Email Correspondence. May 3, 2018.

\(^{357}\) Hayes, Joseph. October 19, 2017, (30:00).
security. To achieve energy portfolio standards that appear greener, CCAs have been known to engage in the purchase of unbundled renewable energy credits (RECs). Unbundled RECs are essentially immaterial credits that become detached from actual electrons and yet are legible in meeting state energy standards. RECs may satisfy some renewable requirements, but they do not help grow the renewable energy market (Weinrub 2017). These RECs may be sought far from CCA service areas, such as from solar farms in Nevada and Arizona where land and labor is cheaper, or from large hydroelectric dams in the Pacific Northwest. Use of large hydroelectric from the Pacific Northwest has been such an important part of CCAs’ attempts to secure economic feasibility while meeting environmental standards that CCAs have increasingly tended to emphasize GHG-free energy sources, such as large hydroelectric, rather than renewable sources.\footnote{Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017, (7:20:41).} Clean sources of energy acquired from outside the state is a cheap option for financially-strapped CCAs, or those just trying to find their footing, but they fail to promote local job creation, enable companies to build where labor and land are cheap, and do not necessarily increase demand for renewable energy in those out-of-state sites.

Pitching to the bottom line might protect consumers, but it hurts workers. In our conversation, Joseph Hayes from IBEW Local 413 spoke more of the “bottom line” than any other participant. His commitment was not to the bottom line as ideology, but as a very real — and very threatening — constraint. For IBEW, the sometimes-plastic logic of the market becomes the concrete fact of labor cuts. This is to say that, while IOUs may alter their calculations and politicians and advocates may charge ahead despite warnings from feasibility studies, workers are much more vulnerable to the accountant’s ledger. The impacts of imprecise calculations are indirectly borne, if at all, by politicians, technocrats, activists, and corporations. Should the program be implemented and fail, smear campaigns
and the ideological prism — not the market — will enact the scourge against politicians. Activists and technocrats might also catch heat, which can easily be distributed through bureaucratic networks, as is their latent function. Corporations, of course, have suffered and even caused much greater havoc than a few stranded assets, and the IOUs in question have always weathered the storm. Even customers, saddled with higher energy bills, will in most cases be able to either pay the charge, reduce their consumption, or opt out. In all cases, however, and with every downward swing of the market, labor must squirm under the pendulum.

What matters from the standpoint of labor is whether the entities tasked with enlisting IBEW labor can abide by their own bottom lines while still employing local union labor. Here, for the IBEW workers, instruments and measures such as the feasibility study or the calculation of PCIA rates must be taken at face value because those instruments and measures become real as soon as IOUs and CCAs use them to determine and legitimize the next quarter’s expenditures. In our conversation, Hayes insisted on the realism of the PCIA calculations and the energy contracts they are based on. He emphatically stated, “That’s real money that’s out there.” Before I could press him on the point, he retorted, “Let the accountants freakin’ shuffle it off the way they do, but that’s, that’s on the table.” From here, Hayes took aim at the supporters of the CCA who remained unconvinced by the results of the study and defended the legality, if not the legitimacy, of the PCIA calculations:

The advocates for CCA and Community Choice Energy, are like, well, if we could just lower that part of the thing, we would have been feasible! Well, yeah, but you can’t pretend that that money’s not on the table, because it really, really is. So, that’s what it’s all about. And it’s not like just Edison saying, ‘Oh, you guys are gonna have to kick us down some dough,’ right? No, that’s all regulated at the PUC. They know exactly how those formulas work. And those formulas are set by law. So they can’t manipulate that stuff. One thing that they can do to shift stuff around in their favor, is what they have been doing with the generation and the distribution, but they’re all doing that within the lines of the law. So, but they have to protect their investments,

359 Hayes, Joseph. October 19, 2017, (1:00:00).
360 Ibid.
What is perhaps most striking here is that Hayes levels his criticism against IOU and government accountants as well as CCA advocates for denying a kind of market realism. While others can “shuffle off” charges and hopefully appeal calculations, he must take them seriously. Hayes enshrines the PCIA charges in legitimacy not because of some abstract dedication to the market, but because the bottom line is taken as legitimate by those actors who hold the fate of labor in their hands. In sum, appearance must be taken as reality.

For all this, Hayes expressed no trust or fealty to the IOUs, though he was concerned with protecting their investments, knowing that without investments there would be no labor. He clarified, “I’m not here to defend the utility companies, right, but I definitely want to ensure that if those investments aren’t protected, then the company’s gonna protect that bottom line at all costs, right? So, like, where do you think if you’re a, where are you going to cut? You’re gonna cut jobs. You’re gonna cut people. And those people lose jobs, those people that lose jobs lose their income, and that’s where we, that’s where we’re coming from.” Here, a commitment to business-as-usual is not made on the grounds of ideology or how to maintain political salience or even abide by the structural constraints of a CCA. Maintaining business-as-usual is important because that’s how a union leader makes sure people don’t lose their jobs.

At the same time, Hayes was not value-free in his orientation toward IOUs and CCAs. Against the bottom line of the IOUs, Hayes asserted his own bottom line: a commitment to build energy efficient systems. “So our bottom line, our interest is — besides being Californians, besides being citizens of this county, but as members and as electricians — we want to build the resources that are in demand. We want to build storage, we want to build

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361 Ibid, (1:01:00).
362 Ibid, (1:02:00).
generation, we want to rebuild the grid.”

But if CCAs are not made financially viable, they will be incapable of making good on their promise of local build-out. Whether the labor comes from IOUs for the maintenance of transmission lines or from CCAs through local renewable generation projects, the IBEW needs entities with money to keep them working. In a follow-up email after the interview, Hayes argued, “If you can’t prove upfront that you can do it cheaper and still charge comparable market rates, then there are no revenues to reinvest. [...] If there are no investment dollars, then there are no projects being built, which means no jobs are created.” If CCA programs are kept anemic, they will fail to deliver on their energy democracy aspirations.

At the end of our interview, Hayes asserted that regardless of the outcome of the next feasibility study, his union would keep pushing for renewables built locally. That, in turn, would require pushing against corporations that would rather build out of state than hire local union labor:

JH: “We’re still gonna be pushing those same interests and make sure [...] they’re not gonna build it in Arizona, like I said. Because they will – because why?

MBC: Bottom line.

JH: That’s right! I knew you were paying attention. [They high-five.]

From here, it is worth considering what kind of impact the success or failure of organized labor would likely have on communities on the South Coast. Building trades jobs, clean or otherwise, are few in number, are comprised of temporary projects, and can rarely be accomplished entirely through local labor in the first place. In what way, then, is organized labor crucial to energy democracy?

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363 Ibid, (31:00).
364 Hayes, Joseph. Email Correspondence. May 3, 2018.
During my interview with Hayes, the conversation meandered over to the topic of landlords. Hayes and the IBEW had been invited by now-Mayor Cathy Murillo to table at an affordable housing symposium in Santa Barbara. Hayes had shown up, “flying IBEW flags and talking to people about entering into the trades to make a living.” He continued, “If you think about it, the high cost of living down there, the conversation was always about that one thing inside of it, like, what are we gonna do about the high cost of rent. And the other part of that conversation is what are you gonna do about providing people with jobs that pay enough to pay that kind of rent or to purchase the property.” Unions are a way to achieve a professional wage, insurance for workers and their families, a retirement savings. For Hayes, these were not separate issues from the high cost of housing. When it comes to protecting communities against the rising cost of living, consumer protections are only half the solution. We would need worker protections, too.

The problem regarding housing is analogous to how some CCA advocates regard economic viability and cost-savings. Most of the discourse surrounding CCAs and their cost revolves around the consumer. It is the consumer who must be protected, the consumer who is used as a human shield by corporations, the consumer whose purse must be appeased. By Hayes’s framing, this picture is incomplete. For a community to be economically resilient, they need good jobs, too. That’s what Hayes is in it to protect. In sum, the citizen is a complex assemblage of interests irreducible to access to cheap, abundant energy. As such, the citizen must interact with an energy system that regards them as more than a consumer, as more than *homo economicus*. They must retain the power to navigate that assemblage of interests of their own accord. This requires that they be reconstituted as political agents. The creation of a community choice aggregation is one modest step toward realizing that agency.

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366 Ibid, (1:08:00).
367 Ibid, (1:08:00).
5. The False Concern for Customer Satisfaction

Much of the discourse surrounding energy suggests that CCA policy is designed to keep rates low through customer choice and free markets. At the same time, it is worth asking whether the tail wags the dog, or to what extent customer choice and low rates are actually weaponized against CCAs to protect IOUs. A test here would be to actually examine in real terms the electricity rates predicted by even the worst case scenario feasibility study conducted by Wildan, to consider whether these rates are likely to be borne out and whether the increase would even be noticed by ratepayers, and finally to explore alternative strategies to keep rates low that do not rely on free market logics.

First, the feasibility study conducted by Wildan predicted a rise in energy rates, but not necessarily an increase that would substantially impact consumers or that could not be absorbed by simple shifts in energy consumption. At the October 2017 feasibility study discussion at the County Board of Supervisors, Lavagnino insisted that his constituents would not be willing to pay even $5 more on their bills, much less the $15 ratepayers would likely pay in PG&E territory if the CCA went through, according to Wildan’s model.368 The suggestion that ratepayers would balk at paying even an extra $15 a month for democratically controlled energy says much more about consumers’, politicians’, and IOUs’ acclimation to cheap, abundant energy than to the exorbitant cost of CCA-delivered energy. Moreover, Williams was quick to point out that, if customers took advantage of energy audits and other efficiency programs offered by IOUs, “most customers could save fifteen bucks right now.”369 If the dedication to low prices on energy is disingenuous, it is likely that abiding by free market principles operates as a cover for maintaining the status quo, here an energy market dominated by IOUs.

368 Santa Barbara County Board of Supervisors Meeting. Santa Barbara County Administrative Building, Santa Barbara, CA. October 3, 2017.
Structurally, the threat that customers might opt out of CCA services poses enough of a risk to CCAs that they are forced to lower their rates to be competitive with IOU rates. At the same time, it is worth questioning to what extent the risk of opt-outs is a foregone conclusion, or simply a boogeyman designed to hamstring the more ambitious energy democracy aims of CCAs. During deregulation, only 1% of customers chose to change their ESP (Wasserman 1999). In light of consumer’s relative ignorance over changes on their electricity bills, it seems outlandish to think that consumers will en masse quit programs they are opted into from the beginning. Even more outlandish is the proposition that ratepayers would swarm to city council chambers and supervisors meetings to assail their elected representatives. It is much more likely that IOUs would mobilize campaigns against representatives who advocate for CCAs. In that case, the political concern shifts from rates to how concern over rates can be weaponized by IOUs using appeals to free market values of rate competitiveness and customer choice.

Insofar as advocates and politicians are concerned about keeping rates low, it would be entirely possible to restructure energy rates to protect financially vulnerable customers. Currently, the flat-rate structure of energy rates guarantees that ecocidal commitments to cheap, abundant energy can always be reframed as pro-consumer, or even as a salute to economic justice. In this way, the poor are used as a human shield to protect corporations against public power. A simple solution to this problem would be to design a rate structure that prices energy according to income. In the case that rates become substantially more burdensome for high-income ratepayers, under current CCA policy those ratepayers could opt out to the incumbent IOU and undermine the economic feasibility of CCAs. Here, customer choice once again could be used to make public power heel. It is worth remembering that customer choice has legitimized structural constraints to keep IOUs solvent. It is also worth remembering that customer choice was never provided for by IOUs, and that now IOUs are weaponizing customer choice against energy democracy. Surely the
ability to participate in decisions about where a community’s power comes from is a higher form of choice than the narrow choice provided for in choosing between an IOU and a CCA. Thus, insofar as our concern lies in protecting the choice of the citizen, it makes good sense to sacrifice the choice between IOUs and CCAs to preserve the choice promised by the energy democracy aspirations of CCAs. In a word: get rid of opt-outs, and make the rich pay more for energy. In the case that the financial viability of IOUs is undermined by cutting them out of procurement entirely, it is worth remembering that IOUs are only viable today because they were handed natural monopolies over a hundred years ago, operate with regulatory protection from the CPUC, and have been bailed out and protected from liability by the state of California. The public already owns IOU infrastructure. It’s time we act like it.

These solutions are, of course, not being entertained. That they are not is proof that our commitment is not to low rates, but to the concept of the free market. Free market ideologies have been weaponized against public power and crystalized in policy constraints that favor IOUs. To be sure, the political will needed to enact the aforementioned policy changes amount to cutting the Gordian knot of IOUs’ dominance. At the same time, this analysis has shown that if CCA advocates are committed to goals beyond cheap, abundant energy, they would do well to cast off the language of cost-savings and free market commitments entirely in favor of a more robust substantive program of energy democracy.

Short of total insurrection, there are more subtle ways that CCAs can undermine the logics of the free market and disabuse their movement of the fetters of eco-modernist commitments to low costs, minimal consumer impact, and customer choice. The first strategy, which has some traction, is to allow for “in-kind” power rulings, which would allow CCAs to benefit from long-term power contracts that they would essentially buy directly from the IOUs (Burke et al. 2005, 14). In this way, no contracts would be broken, and no
one would be left holding the bag. Alternatively, IOUs could simply be made to bear the brunt of stranded contracts. Not all is fair in the free market.

An important shift could even be made rhetorically. Becker suggested that a pitfall of CCAs, “especially for SoCal Edison territory, is talking about CCAs as if they’re going to necessarily save ratepayers money. I think we need to be talking more about jobs, justice, and community benefits. Because in competitive areas we can’t necessarily save a bunch of money for our ratepayers.”\textsuperscript{370} The suggestion here is that if CCAs offer substantive benefits to their communities, if they are presented with political options, they will be liberated from thinking in purely economic terms. At the same time, Becker admitted that if CCAs “charged them a third more than what they are used to charging, they’re gonna opt out, and our program will fail. So, there’s an important reason that we focus on the economics of it.”\textsuperscript{371} What this suggests is that while market factors should enter into a CCA plan, market forces need not occupy a supreme position in the calculation. Becker suggested that the CCA could even work if it were more expensive in the beginning: “If we can come up with some plan that seems like it will work even if, say, we plan for seventy percent retention of customers, [...] I think it could still be a really vibrant program that we’re proud of and there’s a chance people could opt back in later.”\textsuperscript{372} When the free market is not taken as a given, other creative solutions to creating successful CCA programs become feasible. This section has shown how, insofar as IOUs command the market, the illusion of the free market serves IOUs against CCAs, and eco-modernist constraints within CCA policy are revealed not as ways to protect consumers and keep rates low, but to keep IOUs at the table. If CCAs deserve support, it is foolish to leave their success to the machinations of a captured market.

\textsuperscript{370} Becker, Chloe. September 8, 2017, (Part I, 24:00).
\textsuperscript{371} Ibid, (Part I, 25:00).
\textsuperscript{372} Ibid, (Part I, 42:00).
6. Corporatism as Fact, Corporatism as Value

Standing up to IOUs and recognizing that PCIA rates are a device to keep CCAs in check would require that CCA supporters dispense with the notion that IOUs are doing anyone any good but themselves. Yet, in my conversations, I found many advocates of CCAs who seemed unwilling to mount a full critique against IOUs. In this section, I will examine three statements from CCA advocates vis-à-vis IOUs and explore how corporatism may explain why some CCA advocates seem incapable of confronting the hegemony of IOUs on the way to proposing more radical agendas. Corporatism is understood here as a form of inter-party relations wherein interested parties gain control over decisions by securing themselves a seat at the negotiation table (Neumayer 2003). Once parties have a seat at the table, it becomes difficult to make decisions that negatively impact any parties present. While in the context of CCAs corporatist relations between CCA advocates and IOUs begins as a material necessity and eco-modernist policy constraint legitimated by narratives of customer choice, I argue that corporatism gains an ideological valence as actors grow accustomed to working together and eventually come to believe that they share the same interests. The myth of shared interests here drains the radical potential of CCAs and can prove fatal to its aspirations toward energy democracy.

In my conversation with Jennifer Cregar, she framed the relationship between CCAs and IOUs as fundamentally cooperative. She clarified:

I think that any CCA provider still has to work very, very closely with the investor-owned utility in their shared footprint because the CCA only has the authority to take over the supply piece. [...] They kind of have shared responsibility and obligation to the customers that they’re both mutually serving. So, I think, you know, CCA is a way to certainly enable more of the local voice to be heard, but it doesn’t do that to the exclusion of the IOU.373

Here, Cregar offered a statement of commonality with the IOUs. In essence, CCAs and IOUs have to work together, and their relationship is both materially necessary by virtue of the
IOUs’ control of the grid and morally necessary by virtue of their shared customer base. Because the two entities are forced to work together on behalf of ratepayers and toward the common goal of keeping the lights on, it is unsurprising that CCA advocates — especially those in government staff positions — do not adopt an overtly hostile orientation toward IOUs. Moreover, as this chapter has illustrated, IOUs are very much in a position to capsize CCAs if they intend to. For these reasons, it may benefit all actors to play nice.

Like Cregar, Amelia Carr of the Sierra Club argued that maintaining the viability of IOUs was essential to running the grid, even if they were manipulating PCIA rates at the CPUC. Carr stated, “They’re working it out, that’s why they’re having their influence with the Public Utilities Commission, making sure they’re still viable — and we want them to be viable, too. We wouldn’t want to drive the utilities out of business. They’re the grid.”374 Later, I asked a more targeted question about IOUs’ approach to local solar and energy efficiency programs. Had IOUs not undermined decentralized energy production, and did they not have a persistent interest in buoying energy consumption? Carr became careful with her language:

I don’t want to get down on utilities, either. I don’t, I don’t, I just — I don’t hate utilities, I don’t. I’m just noting that from, generally speaking, it’s always better — well, two things. It’s better to have energy efficiency first, it’s always the cheapest thing to do. And two, in certain states, utilities are passing bad laws that disincent local solar build-out. Those are both true things. Those are both true things. That’s what I would say about it.375

Rather than put local renewables and energy efficiency into direct conversation with IOU maneuvers, Carr began by pedaling back her critique of IOUs, then broke her argument against IOUs into two statements that were “both true.” It was puzzling to hear an advocate

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373 Cregar, Jennifer. October 6, 2017, (31:00-33:00).
374 Carr, Amelia. September 29, 2017, (57:00). At the same time that Carr recognized that “you could talk to your utility and maybe argue with them and ask for things, but they don’t really have to listen to you,” she corrected herself and stated, “I mean, I don’t want to say that talking to them doesn’t have value” (1:01:00). She elaborated on how public opposition to Diablo Canyon and San Onofre Plants were effective against PG&E. “So, it’s not like they won’t listen, you can’t negotiate with them and talk to them, there are certainly examples where utilities have done things” (1:02:00).
of CCAs, especially one who stood on the “outside” of CCA governance-to-be, refrain from openly criticizing IOUs. The statement prompted me to consider that there could be deeper, perhaps ideological reasons that some CCA advocates did not mount more sweeping criticisms of IOUs.

In an interview with the Community Environmental Council’s Amy Parker, she mounted a spirited defense of PCIA charges and in so doing provided another instance of a CCA advocate protecting IOUs. Parker argued, “You need to compensate the utilities for the revenue that they will have lost because they bought this and entered into long-term contracts thinking that they would have this certain number of customers.” At that moment, Parker raised her voice and stated,

> In Amy’s opinion, not Community Environmental Council’s, in my opinion, at its core, it’s not necessarily a bad thing because, I mean, utilities have to be regulated, right, and I think that they should be made whole for the purchases that they made on behalf of all of their customers. Otherwise, the remaining customers that were with the utilities would really be price-gouged.

With this statement, Parker moved beyond the typical justification that IOUs must be kept whole because they are essential to CCA operations. Instead, she claimed that IOUs should be kept whole because they are regulated.

Parker’s statement opens up to an important insight about regulation. Regulation of IOUs does not simply protect the public under conditions of monopoly; it also ensures the protection of the monopoly. In this way, regulation can be understood as an arrangement that protects parties involved by locking them into corporatist bonds. In a word, IOUs will be kept at the table, and insofar as that is the case, their interests will be protected. While corporatist arrangements incentivize cooperation, they also narrowly circumscribe options. Corporatist models discourage exploration of both solutions lying outside the reach of institutional expertise and problems residing at the root of those institutions (Hukkinen

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375 Carr, Amelia. September 29, 2017, (1:10:00).
376 Parker, Amy. September 14, 2017, (36:00).
By retaining control over the grid, IOUs have ensured that they will have a seat at the table in CCA operations. Through this corporatist framework, enshrined by the material necessity of mutual responsibility to customers, CCA advocates are limited in the critiques they can level at IOUs, and their capacity to entertain solutions to issues that plague CCAs is weakened. If CCAs cannot meaningfully confront and do away with PCIA charges, their ability to speak to energy democracy commitments will be hamstrung.

These corporatist bonds likely constitute an important part of SCE’s strategy. Early on in the history of private utilities, Samuel Insull had the insight to know that, in order for IOUs to warrant their monopoly status, they would have to legitimize themselves to the public. One means by which SCE has legitimized itself is by making itself indispensable not just to the proper working of electrical infrastructure, but to community organizations. SCE, for one, has positioned itself on a host of community boards. During our interview, Hunter could positively not be stopped when asked about the company’s interface with the community: “We interact philanthropically, and I serve on various boards on a regular basis. You name it, from Boys and Girls Clubs in the area to United Way to Girls, Inc. to Community Environmental Council. [...] We have a partnership with Red Cross called Prepare SoCal that we work with to prepare people for disasters and respond to disasters.”378 She paused, and as I began to ask my next question, Hunter interrupted me, gushing, “Sorry, Chambers of Commerce, I mean, business organizations — the list goes on and on.”379 From here, it is either the case that SCE cares that deeply about the community, or SCE cares to appear that deeply caring. Regardless, these interactions with the community cultivate good feelings between the people and the IOU. These bonds ensure

377 Ibid, (37:00).
378 Hunter, Kelly. February 7, 2018, (31:00).
379 Ibid.
that no group in particular has any interest in weakening their power. Moreover, if SCE is jeopardized by CCAs, the IOU will no longer be able to sponsor these organizations, including the Community Environmental Council itself. SCE’s community involvement ensures that, if CCAs were to bring down IOUs, they would raise the ire of a host of community groups along the South Coast.

Later in my fieldwork, I would see Hunter from SCE sitting at the Santa Barbara City Council Meeting on October 31st alongside members of the Sierra Club and the CEC, to which SCE was a major donor. It would occur to me that the most important ideology plaguing CCA supporters and obfuscating more revolutionary solutions to public power was not a dedication to the free market through necessity, but to business-as-usual through corporatism. In the fight for energy democracy, corporatism is a dead end. Capitulation to powerful corporate interests locks CCAs into relations that fall far short of energy democracy as CCAs are kept financially starved. The success of CCAs in bringing about transformative change through dedication to substantive commitments to local generation and renewable energy hinges on those CCAs’ ability to escape free market discourses, challenge the paradigm of cheap, abundant energy, and eject IOUs from corporatist relations.

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380 Santa Barbara City Council Meeting. Santa Barbara City Hall. October 31, 2017, (Line 23).
III. Conclusion

In my conversation with Brian Stevens, the retired public power and federal regulatory manager, he warned that, in the field of electricity, “Each Big Mistake creates the seeds, the Big Conditions, for the next Big Mistake.”381 Today’s decisions will have repercussions that will become unmanageable, unfurling across the decades. Inspired by Stevens’s warning, in conclusion I conduct a pre-mortem by asking: “Imagine that we are a year in the future. We implemented the plan as it now exists. The outcome was a disaster. Please take 5 to 10 minutes to write a brief history of that disaster” (Kahneman 2011, 264).382 This exercise can help participants and decision-makers recognize overconfidence and groupthink, and it unleashes the imagination to root out unseen problems. In this case, I have taken substantially longer than “5 to 10 minutes” to consider the possible impending failures of the CCA in Santa Barbara County. Failure here means both failure to be established and failure to deliver on local renewable generation, which I take to be a principal good of CCAs. My considerations, and some possible solutions, are recorded here.

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“Community choice aggregation failed because there wasn’t enough interest in North County.” As demonstrated by Jennifer Cregar’s presentations at the Clean Energy Community Meeting and County Board of Supervisors Meeting in July 2018, North County buy-in is essential to constructing a feasible program. Because rates in PG&E territory are higher, bundling in former PG&E customers can help level out the costs of the plan and make for a more competitive program. Yet little interest has been cultivated in cities in North County, at least as of this writing, and North County Supervisors have dragged their feet on the CCA.

381 Stevens, Brian. May 9, 2018, (26:02).
382 Kahneman here is referencing an idea from colleague Gary Klein.
One possible solution is for advocates to reach out to North County with concrete reasons to be excited about community choice. Talk of higher renewable content alone will win over neither North County residents nor Supervisors. However, promises of local build-out with local jobs has material resonance in North County. This strategy draws on insights from energy democracy; as Al Weinrub argues, communities must be extended reasons to care about participating in their energy systems. We can do this by designing our CCA program from day one with specific projects in mind that can benefit local communities. Strategic planning at fine levels of granularity is here more promising than abstract technical feasibility studies.

Bringing in North County will also require framing CCAs in conservative discourse. One area of overlap between energy democracy and conservative values is the desire for respite from state-level regulation. CCAs may even be fruitfully conceived of as a departure from bureaucratic management. When priorities for local control are satisfied, conservative actors may be free to pursue environmental concerns. Ongoing conversations between CCA advocates and North County politicians may also constitute the kinds of consensus-building negotiations that Jasanoff names as essential for manifesting consensus that will be deemed legitimate by program implementers. Once these negotiations occur, we might be more likely to see plans and feasibility studies that are taken seriously and trusted by actors across the board.

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“Community choice aggregation failed because local politicians were worried about the possibility that CCAs and local generation would mean higher rates.” So long as community members are reduced to consumers with narrow interests in cheap, abundant energy, CCA movements will be hamstrung. This fear stunts the political will of some county politicians, but these concerns should not be taken at face value. Research should determine to what extent consumers are likely to opt out of CCAs,
even if rates increase, and the findings should be communicated to local politicians.

Support for CCAs on more substantive grounds can also be built up in communities, and this public pressure could help boost the political will of politicians to pursue CCAs and local generation programs, even if they mean higher rates.

To help legitimize higher rates, advocates can also create new ways to assess the energy they procure. For example, a new measure of local ecological and economic resilience could be created, which weighs an energy source’s environmental sustainability and proximity to end-use. This metric would bring local control and environmental concerns together into a single unit, perhaps called an energy independence number (EIN). Norms and standards could be developed around this indicator, affording CCA advocates a new terminology with which to advocate for clean local solutions.

“Community choice aggregation failed because the movement lost momentum.” As IOUs and the CPUC work to slow and undermine the implementation of CCAs, it is likely that the movement will lose steam in communities, institutionalized environmental groups will seek strategic compromises, and government insiders will look for other ways to satisfy demands for higher renewable content. This tendency to abandon the movement may even be exacerbated since the RPS mark was recently raised to 100% by 2045. With some environmental concerns met, the movement for energy democracy might start to flag.

This problem might be solved by emphasizing the benefits of CCAs that lie outside these environmental concerns. Here, CCAs should be billed as a strategy to gain local control over energy, to create opportunities for participation and public power, and to incur local benefits to communities. CCA advocates should publicize proposed and potential projects to communities with vivid descriptions of where they will be sited, how many people might be employed, how resilient the systems will make us, and what kinds of community programs
the projects might fund. These goals must be made concrete to have public resonance. In general, communities must be given reason to care about CCAs beyond narrow environmental aims.

“Community choice aggregation failed because they couldn’t engage in local-build out.” CCAs are likely to fail to engage in local build-out insofar as they are kept financially starved by IOUs, especially through the implementation of PCIA charges. Even where PCIA charges do not flunk programs entirely, they can make programs anemic. If local build-out fails to become a part of CCA programs, communities are not likely to have a stake in their energy systems, and the participatory potential of CCAs will be undermined. In turn, CCAs may face a crisis of legitimacy, and their effectiveness and purpose might be called into question.

In order to achieve local build-out, CCAs must solicit the insights and participation of “outside” energy democracy advocates and the community at large who will build local generation projects into strategic program design. In the same vain, at-risk consultants should be used whenever possible to ensure that all negotiators and actors have “skin in the game.” Once the CCA becomes established, the CCA can create community advisory bodies so that laypeople can also engage in decision-making. The CCAs can help maintain technical workability with layperson participation by employing free-floating experts whose task would be to advise CCA decision-making bodies.

“Community choice aggregation failed because it faced too much opposition from IOUs and the CPUC.” CCA advocates must recognize that IOUs and the CPUC are likely to purposefully keep CCA programs anemic. These machinations must be brought to light and openly opposed by CCA advocates. CCA advocates can also pursue outright oppositional campaigns against IOUs. The wildfires of 2017 and 2018 have been caused in
no small part by faulty transmission lines that stretch across dry wilderness full of dead and
desiccated vegetation, and IOUs are facing a crisis of legitimacy for failing to take their
systems offline when they become overloaded. By undermining the legitimacy of IOUs, CCA
advocates can undercut their power at the CPUC and frame their own microgrids as a dual
power solution to the problem of IOU hegemony.

To confront the power of IOUs at the CPUC, CCA advocates can also connect with
CalCCA, an advocacy group that has been incredibly important in challenging IOU capture
of the CPUC and pushing for CCAs on the state level. Of principal concern should be the
stabilization of PCIA rates. By communicating and coordinating horizontally across
California, advocates can mount an important challenge to IOUs statewide.

These likely roadblocks and their solutions have much to do with the fundamental
internal contradiction between eco-modernism and energy democracy within existing CCA
policy. In this conclusion, I have presented solutions that emphasize the power of energy
democracy in overcoming obstacles such as high energy rates, lack of buy-in from
politicians especially in North County, and waning interest in the movement. I have
emphasized, above all, localism, participation, consensus-building, and the strengthening of
horizontal bonds across CCAs to fight centralized authority at the CPUC. Seizing these
solutions requires that we recognize and challenge that contradiction, that we deepen the
engagement of community members by giving them concrete reasons to believe in our
project, that we regard them as democratic subjects rather than de-agentified consumers. It
requires, most of all, that we repoliticize, relocalize, and democratize our energy system.

The purpose of this project has been to determine the aims of the CCA in Santa Barbara,
and to explore under what conditions those aims might be met. In pursuit of answers, I
conducted a year of in-depth interviews and participant observations as researcher and
advocate, which allowed me intimate engagement with the field and closeness with the
participants. While actors may be more or less committed to the specific aims of energy democracy and occupy different positions in the movement, broadly speaking they envision local control as a means to achieve substantive goals such as local renewable generation and cost-savings. I argue that those actors who have the most ambitious and full-fledged understanding of the promises of the movement, are committed to generating positive socio-technical change in the energy system through energy democracy: energy systems are technologically decentralized through DERs and organizationally refashioned as matters of public concern through CCAs.

I have shown how CCA policy is a disorderly bundle of contradictions, reaching toward energy democracy yet hobbled by eco-modernist constraints. These constraints manifest in structural impediments such as dogged dedication to economic feasibility, persistent and unpredictable PCIA charges, and entrenched corporatist negotiation, as well as ideological conceits to customer choice and cost competitiveness. As such, I argue that in order for the energy democracy aims of the CCA to be met, advocates must use insights from the energy democracy framework to move through eco-modernist constraints. In the literature review, I argue that the energy democracy framework offers important theoretical and practical tools for creating a new energy system. The energy democracy framework draws on critiques of bureaucratic governance (Habermas 1962; Landa 2009), arguments for participation and decentralization (Goodman 1965; Flacks 1988), and ideas about how to build consociative communities (Bookchin 2005). In short, the energy democracy framework insists on building decentralized socio-technical networks hosting participatory models of energy system decision-making (Weinrub 2017; Kristov 2018). Such democratization can enable strategic planning so that energy systems can be made to work for us, resulting in local economic and environmental resilience. What’s more, as energy systems are democratized, they can bring science and democracy into conversation with each other, yielding expert decisions that work for people and are held as legitimate (Owens
In this way, and as shown in this conclusion, the energy democracy framework is not simply a dreamy aspiration, but a real strategy for working through the contradictions inherent in CCA policy and manifesting workable programs.

In studying the CCA case, I have also endeavored to make a larger statement: democracy and capitalism cannot coexist. Ideological and structural elements of capitalism, surfacing here as eco-modernist policy constraints, render public democratic power anemic and all but untenable. Structurally, capitalism has concentrated power in regulatory bodies so that it may set the rules of the game and starve alternative projects. Ideologically, it has given powerful corporate actors the rhetorical tools to bend systems to their will while using the citizen — flattened to consumer, desiring cheap, abundant energy, voiceless — as a human shield. Capitalism is the constraint of democracy, and one cannot flourish without destroying the other.
References


Appendix

A. Interviews: The Players in Santa Barbara County

Chloe Becker, California Alliance for Community Energy. September 8th, 2017: I conducted my first interview with Chloe Becker, a representative from the California Alliance for Community Energy (CACE), to get a sense of the key figures, groups, and issues surrounding the CCA movement in Santa Barbara County, as well as to gain candid insights as to the promises and pitfalls of the program. The CACE works to support CCA efforts across California through legislative action, and they have worked to connect energy democracy-minded CCA advocates throughout the state. For example, Becker was responsible for inviting Joe Galliani, an important supporter of local energy in Los Angeles who led South Bay’s CCA program, to the first forum in June 2017. Additionally, Becker was one of the community steering committee members for the local Central Coast Power initiative, which officially represents staff members and, to a lesser extent, community advocates working toward the CCA. Becker has also long been a fixture in the environmental justice community in Santa Barbara. She affirmed common CCA goals such as local control, renewable generation, local build-out, and cost-savings, but she was particularly committed to the social justice benefits that could be incurred to communities affected by environmental racism when energy revenues are kept local. Our conversation was the most familiar of my interviews, and Becker readily posited core values of “community oversight” and “transparency.” Above all, she appeared motivated by energy democracy and social justice concerns.

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384 Ibid, (Part I, 33:00).
385 Ibid, (Part I, 5:00).
386 Ibid, (Part II, 2:00).
Amy Parker and Josh Hudson, Community Environmental Council.

September 14th, 2017 and May 8th, 2018: The Community Environmental Council (CEC) is the most long-lasting CCA advocate in Santa Barbara County. The organization had worked on the project for a decade since, in 2007, they had identified CCA as a way to achieve “Fossil Free by ’33” goals. In 2017, the CEC put $50,000 toward the first feasibility study. The CEC launched just after the 1969 Santa Barbara Oil Spill and has focused on local solutions to climate change, such as promoting local food, increasing bicycle access, decreasing car use, reducing plastic use, and increasing local renewable options and energy efficiency. They consider themselves to be a “research-based organization,” but they also engage in “advocacy work to promote policies that are in line with [their] mission.” I decided to interview CEC’s Amy Parker, who had worked on the CCA, with the purpose of exploring the role of the CEC in developing the movement for the CCA in Santa Barbara, and to understand their perspective on the promises and pitfalls of CCAs. Perhaps because the results of the first feasibility study had recently come back unfavorably, Parker was somewhat cynical about the future of the CCA. After this interview, I got the sense that the CEC was positioning itself to abandon the CCA project altogether. I later compared my interview data with the much more optimistic statements made by CEC actors during city and county governance meetings and decided to amend my earlier analysis. In part because I was concerned that this first interview had been troubled by the bad news about the study, I decided to interview another participant connected to the CEC, Josh Hudson, in May 2018. In this interview, Hudson was much more optimistic, perhaps because the next feasibility study — which turned out to be favorable — was in the works and set to be released within the month. Among other things, this interview was useful in

387 Becker, Chloe. September 8, 2017, (Part II, 2:00).
388 Cregar, Jennifer. October 6, 2017, (24:00).
391 Parker, Amy. September 14, 2017, (7:00).
demonstrating the deep connection between CCAs and local renewable generation such as DERs.

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Mary Romano, Lancaster Choice Energy. September 20th, 2017: Early in my study, I had planned to conduct a number of interviews with CCA advocates across the state. I soon realized that my project would be more feasible if I kept my work local, but before I reduced the scope of my work I was able to travel to Lancaster for an interview with Lancaster Choice Energy’s Mary Romano. This interview was useful in that I was able to learn how CCAs have networked across the state to share resources and knowledge and to create expertise. The Lancaster case is anomalous in that its CCA is comprised of a single municipality with a conservative constituency led by an autocratic mayor. I anticipate that this interview will become important as I engage in work on CCAs across the state, as well as explore connections and conflicts between conservatism and ecological resilience. The participant seemed motivated to uphold Lancaster’s success as a CCA champion and to demonstrate that such programs are within reach for motivated cities.

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Amelia Carr and Jon Ullman of the Los Padres Chapter, Sierra Club.

September 29th, 2017 and July 17th, 2018: I reached out to the Sierra Club’s Amelia Carr next in hopes of learning how other prominent, institutionally-oriented environmental groups in town had contributed to local CCA advocacy. In particular, I wanted to know to what extent such groups had been instrumental in crafting the project locally. In contrast to my recent interview with Parker from the CEC, Carr was cheerful and optimistic about the future of the CCA, having just come from an apparently productive meeting about the CCA. She was eager to give insights, information, and further contacts, and she contributed greatly to my background knowledge of the CCA. Her principal motivation seemed to be the

302 Ibid, (7:30).
successful implementation of a viable program to bring higher renewable content to the Central Coast through the mechanism of CCAs and local control. Interestingly, the Sierra Club’s advocacy had not emerged from local concerns, but from a national campaign undertaken by the Sierra Club to secure 100% renewable goals in municipalities as a response to flagging commitment to environmental concerns as the federal level.

I was able to interact more informally with another Sierra Club representative the following summer. In between county and city meetings over coffee, we shared ideas about strategies for positive environmental change. Most tellingly, his statements revealed an important tension within liberal environmentalism. On one hand, he promoted “grass-tops” advocacy by key leaders and argued that decision-making centralized in relatively undemocratic bodies could effectively moderate local ecocidal tendencies; on the other hand, he voiced deep concerns about how key leaders wielding great centralized power often run amok of local resilience and can be easily bought by developers and oil interests. This brief, informal interview helped sensitize me to the Sierra Club’s under-stratagized approach to positive environmental change and complicated their commitment to local control as a vehicle for achieving such substantive ends.

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Jennifer Cregar, County of Santa Barbara Community Services

Department. October 6th, 2017: Jennifer Cregar was the General Project supervisor of the Santa Barbara County Energy and Sustainability Initiatives Division, and the coordinator of the regional advisory working group. She had been hired from Texas to oversee the feasibility study, and she had been working on the project in Santa Barbara since May 2016. She was perhaps the most prominent public advocate for the CCA in Santa Barbara, appearing at all major events, and leading most presentations of the

feasibility studies as they came out. I spoke with her to understand the county staff's motivations for undertaking the CCA, as well as to better comprehend the challenges facing the advisory working group after the negative results of the first feasibility study. In our conversation, Cregar was, as always, articulate and poised. As I anticipated from an interview with such a prominent figurehead of the movement, her responses were often somewhat guarded. Still, the interview corroborated much of what Becker had communicated regarding the inside-outside split within CCA advocacy and the technical focus of the feasibility study. Rather than involve outside actors in the process of project planning, Cregar’s general approach to community stakeholders, including environmental and labor advocates, had been to “keep them in the loop, keep them informed of our progress, [and] have some say in terms of how our studies are scoped.”\footnote{Cregar, Jennifer. October 6, 2017, (21:30).} Her insights were also incredibly useful in clearing up technical questions I had about the CCA process. I was also able to get a sense of the depth of her commitment to positive environmental change and to California as a harbinger of that change. In her words, “I hope that what we’re doing at the state level [for example by enabling CCAs] has a national and international effect. I mean, that’s why I moved back to California. This is world-changing. What happens in California sets a trend for the world, from an environmental perspective, and a social perspective. So I wanted to be part of that.”\footnote{Ibid, (47:30).}

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**Joseph Hayes, International Brotherhood of Electrical Workers Local 413.**

**October 19th, 2017:** While Becker had first recommended I meet with him, I was introduced to Joseph Hayes from the International Brotherhood of Electrical Workers (IBEW) Local 413 by two old friends of mine who are electrical workers in the area. Unlike some IBEW chapters with closer ties to IOUs, Local 413 is pro-CCA, contingent on the
CCA’s focus on local build-out.\textsuperscript{399} He had worked with Cregar and Becker in the early CCA project planning, and he is recognized as a progressive leader in union circles locally. The interview was held at the IBEW Local 413 Union Hall in Buellton, CA, and Hayes was kind enough to give me a tour of the facility, which included a suite of classrooms and a hands-on training warehouse where union electricians could teach apprentices. Our conversation demonstrated to me the depth of care that Hayes had for his union brothers and sisters, as well as his commitment to local progressive politics. For Hayes, “Good paying local union jobs are critical to community sustainability across the board.”\textsuperscript{400} While he championed local renewable generation, he rather cynically returned to the refrain that IOUs would continue to pitch to the bottom line in their transmission projects and grid modernization work, and worried that IOUs’ loss in revenues to CCAs could hurt workers. For all this, he was proud to work with environmentalists who cared about union jobs, and he remained committed to the CCA and had tremendous respect for county staff.

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\textbf{Kelly Hunter, Government Relations, Southern California Edison. February 7th, 2018:} Kelly Hunter, a government relations representative of Southern California Edison (SCE), approached me to offer an interview after the Santa Barbara City Council Meeting on October 31\textsuperscript{st}, 2017, as the results of the first feasibility study were being presented to the council. I spoke with her to gain insight as to the IOU perspective on the CCA, and in particular how she anticipated SCE’s business model would change with the movement for CCAs across the state and the possible threat of DERs encroaching on the macrogrid.\textsuperscript{401} At the October 3\textsuperscript{rd} County Board of Supervisors Meeting, she had asserted that SCE remained neutral on CCAs, but I wanted to dig deeper. From my work researching

\textsuperscript{399} Becker, Chloe. September 8, 2017, (Part I, 22:00).
\textsuperscript{400} Hayes, Joseph. Email correspondence. May 3, 2018.
\textsuperscript{401} In our interview, Amy Parker commented that, “So [IOUs] aren’t as threatened by CCA, in my opinion, because of the design of it, like, we buy the energy, it gets transmitted across the lines, and then we buy it. They are threatened by our local DER, though (September 14, 2017, [35:00]).”
CCAs in PG&E territory, I knew that IOUs often put up a fight against CCAs. I wanted to understand why SCE’s tactics were so different and test my hypothesis that SCE was less threatened by CCAs because, unlike PG&E, they had shifted their business model away from generation.\footnote{Becker, Chloe. September 8, 2017, (Part I, 35:00).} Hunter possessed calm command of useful if obfuscating metaphors when explaining, for example, the purpose of PCIA charges, and by and large remained on script. It was interesting to learn of SCE’s supposed concern for community and customer, from their commitment to low electricity rates on behalf of the consumer, to their engagement with a wide range of community service groups, to their dedication to electrify more and more of their customers’ lifeworlds to increase sustainability. For this work, I only interviewed a representative from SCE, but in future work I will interview PG&E representatives as well.

\textit{Michelle and Lucas, 100% Renewable Campaign Focus Group, 350 Santa Barbara. March 5th, 2018 and May 6th, 2018:} In the spring, I held two meetings with members of the 100% Renewable Campaign, who were working as part of the 350 Santa Barbara group. Michelle and Lucas had wanted to learn more about the movement for the CCA, so during the first meeting I was able to share with them the insights I had garnered so far. Following our first meeting, they prepared a presentation about the CCA movement for the 350SB Meeting on March 12th, 2017. We had an additional meeting two months later to talk about next steps for the summer. These conversations were useful in understanding how grassroots organizers approached advocacy and for gaining an insider’s perspective on the character and operations of the environmental activist community of Santa Barbara. While data from these meetings do not feature prominently in this work, I anticipate that these insights will be invaluable later in my work.
David Turner, World Business Academy. May 7th, 2018: I met David Turner of the World Business Academy (WBA) when we were seated next to each other at the first Clean Energy Community Meeting in January 2018. I appreciated his comments on the importance of local control and his concern that, should Santa Barbara join LA’s CCA, all hope of local control would be washed out. We spoke briefly after the meeting, and I conducted an interview with him in the spring. Central to our conversation was local renewable generation and the technologies of DERs, which WBA was pursuing as a way to achieve local resilience without recourse to the Ellwood Peaker Plant. Our conversation regarding DERs was incredibly fruitful, and he suggested I look into the works of Lorenzo Kristof and Al Weinrub. Through our conversation and these texts, I was able to frame CCAs and DERs as a libertarian technic capable of subverting the centralized, bureaucratic hierarchy manifested in the prevailing energy system and asserting in its place an energy system that privileged local resilience and participatory engagement. Here, the term “reversing the polarity” between sites of consumption and sites of generation emerged as an in vivo code that has been crucial to my understanding of the radical potential of CCAs.

Beyond his zeal for challenging systems that just weren’t serving communities, perhaps most remarkable in our interview was how eager he was to learn from other experts in the field. He was constantly mentioning websites and webinars and conferences. At one point he said, “I spend most of my time listening to webinars. I probably attend four to six webinars a week.”

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Brian Stevens, Former American Public Power Association and Federal Energy Regulatory Commission. May 9th, 2018: Brian Stevens, a retiree from the American Public Power Association (APPA) and the Federal Energy Regulatory

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403 Ibid, (Part I, 43:30).
Commission (FERC), had regularly attended every city and county meeting regarding the CCA. He appeared to be one of the only advocates within the community who was not attached to a particular environmental group or currently held a staff position. I reached out to Stevens because I wanted to understand his perspective on CCAs, given his past work in energy, and because I anticipated that an interview with a non-affiliated advocate might yield more candid insights. Over the course of our conversation, Stevens expressed disdain for California’s current inefficient regulatory apparatus and argued that the energy system would work best with a small amount of oversight. Otherwise, regulators should have faith in the market. In terms of program specifics, Stevens advocated for a CCA program that offered amenities such as transportation electrification in addition to renewable procurement. Still, he remained largely uncommitted to local generation, which could jeopardize cost-savings to customers.

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Sharon Rose and Ken Hough, SBCAN. July 7th, 2018 and August 24th, 2018: After the results of the second feasibility study were presented at the Goleta City Council Meeting, I spoke with fellow attendee, Sharon Rose. Rose spoke of her connections to Goleta’s water sanitation board, to tenants’ rights, and to the Santa Barbara Community Action Network (SBCAN). Our brief conversation provided important insights as to the behind-the-scenes operations of Goleta City Council Meetings, which will gain more prominence in my later work. Moreover, she offered interesting perspectives as to the culture of construction and building trades jobs that forced me to reconsider the importance of “temporary” construction jobs. This insight, too, will be important in future work that I carry out with more of a specific focus on labor and environmentalism.

Rose, along with my committee co-chair Dick Flacks, suggested I talk to Ken Hough from SBCAN to gain insights as to North County groups’ involvement in the CCA movement. I conducted my last interview with Hough, and this conversation was useful in
helping me understand the interactions between advocacy groups and city and county leaders. Even more useful were Hough’s thoughts on how we can understand people’s engagement with oppositional or resistance campaigns and disengagement with liberatory or world-building campaigns. In my future work, I intend to examine these insights in light of Flacks’s work on resistance versus liberation activism.

**B. Participant Observation: Important Spaces**

**Community Choice Energy Forum. June 7th, 2017:** I attended this event at the suggestion of Michael Chiacos, a key figure at the Community Environmental Council and a contact I made through my work with the Climate Justice Project. The event was held at the Faulkner Gallery, a community room adjacent to the Santa Barbara Public Library’s downtown location. The event was designed to spread information about community choice aggregation by inviting spokespeople from CCA movements across the state to speak to the benefits of the program. Roughly one hundred people were in attendance.

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**Lancaster, CA. September 20th, 2017:** When I traveled to Lancaster, CA, to talk to Mary Romano from Lancaster Choice Energy, who I had first heard speak at the forum on June 7th, I went into several businesses in Lancaster and talked informally with workers there to get a sense of the economic and social impact of the CCA and the green industries that had also been advocated by the infamous Mayor Rex Parris. The main takeaways from these conversations were that the CCA and other ventures were not appreciably felt by all residents and workers in the town. While these insights were not incorporated into this work, I will likely use them in future studies of CCAs across California.

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**Santa Barbara County Board of Supervisors Meetings. October 3rd, 2017 and July 17th, 2018:** The two County Board of Supervisors Meeting I attended were both held
at the county building in downtown Santa Barbara, though meetings are also held in Santa Maria in North County. Both meetings discussed the results of the CCA feasibility studies. I was able to gain a sense from observing and participating in these meetings not only the kinds of decisions and justifications that were made by the supervisors, but also how CCA advocates managed relationships with the study and the supervisors through public comments and side conversations. In my later work, I hope to delve more into the architectures of power manifested in meeting chambers and how CCAs might cultivate more participatory models of engagement.

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Central Coast Sustainability Summit, UCSB Loma Pelona Center. October 11th, 2017: This summit featured a full day of presentations and workshops from a wide variety of local environmental actors with topics ranging from sea level rise and coastal ecologies to bike path plans and electric vehicle promotion to distributed energy resources (DERs) and community choice aggregation. There was an entrance fee of $20, ostensibly to compensate for the catered lunch. I was able to hear a presentation from Craig Lewis from the Clean Coalition at this event, and I witnessed an interesting interaction between Lewis and David Turner, a participant from the World Business Academy, on the topic of DERs and the contradictions between financing opportunities and small-scale local renewable generation. The catered lunch offered opportunities to observe more casual interactions among local environmental leaders and catch candid remarks such as “Utilities are like cockroaches. They’ll find a way to survive,” and “It’s Jennifer Cregar, the Beyoncé of CCAs!”

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Santa Barbara City Council Meetings. October 31st, 2017 and July 17th, 2018: The Santa Barbara City Council Meetings I attended came on the heels of the County Board of Supervisors Meetings regarding the CCA feasibility studies. These city meetings do not feature prominently in my work here, since insights gathered at these meetings so closely
resemble my observations at the county meetings. The city meetings were less contentious than the county meetings, which I attribute largely to the greater ideological homogeneity occurring at city level governance when compared to county level governance.

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**Clean Energy Community Meetings. January 31\textsuperscript{st}, 2018 and July 11\textsuperscript{th}, 2018:** These meetings were open to the public, but required special invitation through clean energy listservs and an RSVP. They were pitched toward community stakeholders, in practice defined as those with positions in labor unions, on environmental boards, local government figures, some academics, and renewable business representatives. Unlike the first forum in June 2017, they were not oriented toward the education of the uninitiated. For this, and because they were attended by individuals very much in the know, the meetings genuinely seemed productive for those in attendance. Also for this, much of what was being discussed was extremely technical. Still, these meetings were attended by a coalition of the willing who appeared to have respectful relations with each other, with some notable exceptions. For example, while catching up with a participant prior to the July meeting, a supervisor walked by without greeting them. I heard my participant mutter a slur against them before resuming our conversation.

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**350 Santa Barbara Meetings. January 31\textsuperscript{st}, February 12\textsuperscript{th}, March 12\textsuperscript{th}, and April 30\textsuperscript{th}, 2018:** In addition to the more institutional sites I engaged with, I attended a series of 350 Santa Barbara meetings. The first of these events was a viewing of “Fossil Free Fast,” a televised program co-hosted by Bill McKibben, at Santa Barbara’s Unity Church. In February, I was invited to give a brief presentation on CCAs to 350SB at the Unitarian Church in downtown Santa Barbara. In March two 350SB activists on the 100% Renewable Campaign who I had worked with gave a PowerPoint presentation on the CCA movement at the Eastside Branch of the Santa Barbara Public Library. The final 350SB meeting during
my field work was held at the Food and Water Watch office in downtown Santa Barbara. In my future work, I intend to analyze these meetings to get a better sense of the character and capacity of grassroots environmental activism in Santa Barbara.

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**Goleta City Council Meeting. July 17th, 2018:** This Goleta City Council Meeting was the third meeting on a single Tuesday in July to determine the future of the CCA in light of the new favorable results of the Pacific Energy Advisors feasibility study, following the county meeting and the Santa Barbara City Council Meeting. This meeting allowed a glimpse into a different governmental meeting structure and culture, and has inspired me to examine more closely the interaction between places of governmental decision-making and the democratic potential made available by those spaces.

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**Carpinteria City Council Meeting. July 23rd, 2018:** The Carpinteria City Council Meeting wherein the results of the feasibility study were discussed offered as yet another glimpse into the great variety of local governmental spaces. Carpinteria’s City Hall was even more casual and open to friendly community discourse than Goleta’s. Moreover, this experience was important in helping me understand the various ways that narratives of local control may be deployed by a variety of interests to pursue very different agendas: during this meeting, “local control” was deployed both in support of the CCA and against a statewide affordable housing measure. In my future work, I plan to put this experience into conversation with insights gleaned from examining the Lancaster case, both of which demonstrate the possible conservative uses of “local control.”

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**Buellton City Council Meeting. July 26th, 2018:** My final participant observation site was the Buellton City Council Meeting following the results of PEA’s feasibility study. This was simply an informational meeting, and the city council was not prompted to vote on
whether or not to pursue a joint powers authority. However, this was the only CCA meeting held in North County Santa Barbara, and my experience here offered a view of a local government’s orientation toward the CCA and local renewables in a much more conservative area. This was an important visit for me also because I was able to read a letter prepared by Joseph Hayes of IBEW Local 413 in support of the CCA. The Local 413 chapter is headquartered in Buellton. It was the first time I felt like I could truly give back to a movement that had given me so much.