Whatever Happened to Green Collar Jobs? Populism and Clean Energy Transition

Sarah Knuth

Department of Geography, Durham University

In today's populist moment, climate change response has become anything but "post-political". The project to decarbonize energy supplies is generating ongoing political clashes today, including between competing forms of capital/ism. In the United States, rising renewable energy industries in places like California contend with fossil fuel blocs and their regional bases. Such confrontations are sparking populist organizing on the right and left. I argue that critical geography must further consider *left* populist movements' role in these politics of clean energy transition, grievance, and reparation; and openings for collectively advancing more liberatory futures. I survey a wave of coalition-building that has evolved in the United States since the beginnings of the New Economy, allying U.S. environmentalists, organized labor, and more recently racial and community justice organizers. This movement became most visible as it built networks around calls for national "green collar" job creation during the late 2000s financial crisis and 2008 Presidential campaign. Its organizing shaped noteworthy, if ultimately limited Obama Administration programs and continues to influence clean energy rollout in regions such as California; particularly, campaigns for job quality and racial diversity in green construction. I consider here both these successes and their limits in a turbulent cleantech sector: the need for farther-reaching transformations in energy-industrial policy, and democratic participation in shaping them.

Keywords: clean energy transition, climate change, green collar jobs, green economy, populism

Left Populism for a Climate Post-"Post-Politics"

In today's moment of surging populisms, climate response has become anything but "postpolitical" -- if, indeed, it ever was so (Swyngedouw 2010; McCarthy 2013). Behind Swyngedouw's "socio-chemical" enemy lie livelihoods, accumulation regimes, and entrenched power relations: many constituencies for whom climate action appears more dangerous and damaging than inaction. The project to decarbonize energy supplies shapes many forms of this in/action, and critical energy geography is now illuminating many such struggles. Beyond the field's ongoing examination of extractive economies and petropolitics (too extensive to review here), a wave of recent research is taking on global geographies of clean energy rollout, and the green capitalist programs typically propelling it (see, for example, Pasqualetti 2011; Bridge et al. 2013; Huber and McCarthy 2017; McEwan 2017). This work is revealing new forms and articulations of grievance, and new claims for justice, remedy, and reparation -- key lineaments in the production of political formations, including left and right-wing populisms. Given the political ecological and agrarian political economic bent of much of this scholarship, it is not surprising that struggles over rural land and livelihoods feature prominently. Indeed, it would be startling to find otherwise: solar and wind energy infrastructures are now being rapidly deployed in many contexts, and producing major land transformations (joining parallel conversions for biofuels, notably in land grabs after the 2008 financial collapse; Baka 2013).

I argue that this research, although necessary to expand geography's frontiers of scholarship and praxis on energy transition, is not sufficient to confront current political movements, on (at least) two levels. Like political ecology in general, it better captures capitalism's imperialist moment in resource (neo-)peripheries than its dialectically entangled struggles "at home". Particularly, it insufficiently addresses capital's tendency to fracture into competing blocs, techno-industrial and

regional -- ones who wage bitter struggles for supremacy and ongoing accumulation. Such zerosum confrontations and competitive devaluations are a classic concern of geographical political economy, as the field has tracked this creative destruction in the conjoined rise and fall of regional and urban economies (Harvey 1982; Storper and Walker 1989; Markusen et al. 1991). In the U.S. context that I discuss here, such clashes have helped spark new populist formations, as cross-class alliances and blocs assemble to boost regions or combat their decline -- often through competition to capture the federal state apparatus, with its powers over development policy and the geographic redistribution of wealth (Fraser and Gerstle 1989). Crucially, U.S. energy transition (and climate policy) is now being fought out in such sectional battles and prospective devaluations, increasingly openly (Knuth 2017). Rising renewable energy industries in places like California now contend with entrenched and new fossil fuel production regions. In the long rightward shift in U.S. populism since (especially) the Reagan Revolution (Kazin 1998; McGirr 2002; Frank 2007), right-wing movement-builders have drawn upon this sharpening geographical division multiple times -- most recently, in the Tea Party's "drill, baby, drill" advocacy for domestic oil and gas (amid broader invocations to defend "fly-over country" and its hazily imagined true America from coastal elites), and Trump's 2016 campaign promises to roll back Obama era climate policy and "save" Appalachian coal.²

In deepening energy geography's analysis of these confrontations, scholars must expand political ecology's work on conservative populist movements (McCarthy 2002), and continue to bridge political ecology and economy on industrial questions (e.g., Huber 2017). More particularly, I argue, energy geographers must further consider *left* populisms. We are still struggling to conceptualize their role, existing and potential, in political blocs for clean energy transition,

particularly in urban and techno-industrial capitalist centers. Such ambiguities often bleed into our own critical praxis. Green economic development programs dreamed up in places like Silicon Valley present optimistic technofuturist visions of new surplus. This turn away from Anthropocene millenarianism and Neo-Malthusianism has been attractive to some political ecologists, notwithstanding its naivety, genuine or strategic, about the failings of green capitalism. (For example, see conflicting and shifting takes from Latour 2011, 2015; Collard, Dempsey, and Sundberg 2015; Robbins and Moore 2015 on how to interact with the Breakthrough Institute, the particularly aggressive ecomodernist advocate based in the San Francisco Bay Area.) Today's radical cheapening and expansion of renewable energy presents undeniable opportunities for a climate movement long confounded by the difficulties of organizing around shared scarcity. An already dubious prospect for winning broad allegiance, in the U.S. context such a project has been further encumbered by cultural suspicions (from many directions) of liberal-elite "voluntary simplicity". With the prospect of affordable clean energy and new jobs producing it, transition supporters might more aggressively and successively contest the fossil fuel bloc -- overcoming post-political conciliations like Obama era "all of the above" energy policy.³ However, this new hope conceals crucial uncertainties. How many clean energy jobs will there actually be, and for whom? Will they be good and stable ones? Will there be enough of them in the right places? If not, are there other options for making remedy or reparation to fossil industry workers and regions? Such dilemmas are matters of both justice and political urgency for a movement that confronts substantial populist resistance. They suggest a further, crucial one: who gets to participate in debating and deciding these questions?

In the remainder of this paper, I will briefly consider one U.S. attempt to answer the last question, and in the process many of the others. I survey a wave of left populist coalitionbuilding that has evolved over the last twenty years.⁴ Among its other outcomes, this organizing has helped shape major clean energy development programs in California and nationally under the Obama Administration. As policy advocacy, it became most visible in calls for national "green collar" job creation during the late 2000s financial crisis and stimulus, prominently articulated by Van Jones (2008) and advanced during the 2008 Presidential campaign by entities such as the Apollo Alliance, Green for All, the Center for American Progress, and the Center on Wisconsin Strategy (COWS). In these calls, blue-green alliances of labor unions and environmentalists joined with racial and community justice organizers in new ways. However, this movement has deeper roots. Its vision reflects the distinctive political tensions of places like California and the Pacific Northwest in the 1980s and 1990s. In the New Economy, these regions rose as "post-industrial" technological leaders and environmentalist hotbeds, even as their older resource extraction and manufacturing job bases declined -- a conjoining that prompted both enduring grievance and new visions for remedy. In the 2010s, California regional advocates continue to push for good, diverse jobs in clean energy, as the state experiments with what kind of "cleantech" innovator it might become, and who might share in the planning and proceeds of such development. Since the late 2000s, many movement proposals have centered around building a clean energy economy in the United States, in a quite literal sense: they focus their visions for working class clean energy jobs on weatherization and energy efficiency retrofitting, rooftop solar panel installation, and infrastructure development for utility-scale solar and wind power plants. All resemble traditional construction and building trades work. This sector presents a problematic U.S. political inheritance -- notably, if not exclusively, in its racial politics -- that

populist alliances have recently sought to reform into self-consciously progressive race-class programs. However, the movement's strategy raises deeper questions. In a clean energy economy jostled by would-be tech visionaries and destabilizing global restructurings, must left populisms (among other prospective left political formations) demand farther-reaching transformations in energy-industrial policy, and the power to shape them?

The Movement for Green Collar Jobs -- Building a/s Solution?

Understanding the roots of green collar jobs alliances requires looking also to right-wing populism. As the New Economy began to reshape Western resource economies and cultures, it sharpened existing anti-environmentalist resistance -- for example, from rural right-wing movements like Wise Use (McCarthy 2002). New Economy in-migrants, including environmentalists and wealthy rural homebuyers-turned-preservationists, drew fresh ire (e.g., Walker 2003). Through such protests, the right constructed a persistent common sense (after Gramsci) grievance of "jobs versus the environment." It now recurrently deploys this trope to flog environmentalists for supposed elitism and cluelessness about the costs of environmental regulation to workers, particularly in already-embattled resource industries -- echoing elements of political ecologists' own critiques of mainstream conservation, sans their nuance on white settler colonialisms. The Pacific Northwest became one important proving ground for such confrontations, in nationally prominent clashes between the timber industry, workers, and conservationists. The term "green collar" jobs was coined in this regional political moment, in a book by Alan Durning (1999). In it, Durning attempted to grapple with the Pacific Northwest's declining rural jobs, amid its simultaneous transformation into a hub of New Economic tech

growth. The volume argued that newly emerging working class jobs in fields such as environmental restoration had the potential to offset resource industry jobs lost. It offered an alternative to both the timber industry's zero-sum framing and the New Economy's bifurcated job structure: high-wage tech employment for the highly educated, particularly white men; combined with low-wage, insecure service work (or no work) for most others.

Notions of green collar employment reflected the period's broader ecological modernization proposals: nascent green capitalist visions of economic decoupling (growth detached from its energy and resource metabolisms) and a rejuvenated post-industrial economy. However, the idea's subsequent travels were facilitated by other new imaginaries of the era, ones that required more deliberate political work to construct. Through the 1990s, progressive/left populist organizers pioneered the notion of blue-green alliances, a project that sought to unite disparate strands in the embattled U.S. left. This alliance-building brought together progressive wings of established institutions: the Democratic Party's mid-twentieth century base of industrial labor unions, and the environmental advocacy interests that rose in the party from the 1970s onward. At the grassroots, environmental activists and workers developed these blue-green politics through shared resistance to neoliberal free trade rollout, with the 1999 anti-World Trade Organization (WTO) protests in Seattle a crystallizing moment (Cockburn and St. Clair 2000).

Through the 2000s, this movement-building gained national prominence and saw mainstream Democratic Party uptake, in mobilizations around successive Democratic defeats in Presidential elections and George W. Bush-era energy and environmental policies. Newly formed blue-green advocates like the Apollo Alliance embraced novel kinds of ecomodernism and technological

futurism. Increasingly, these efforts opened up potential collaborations with Silicon Valley venture capitalists and tech interests. From the tech side, this green turn proved attractive to a host of entrepreneurs and investors, then casting about for new opportunities after the collapse of the first New Economy boom in 2001 (Caprotti 2017; Knuth 2017). Collectively, these efforts helped kick off a wave of U.S. cleantech investment centered in Silicon Valley and the Bay Area (especially, although see Goldstein 2018). As this nascent boom gathered steam from the mid 2000s, would-be tech visionaries imagined new fundamental breakthroughs in clean energy technologies and business models -- a fresh source of regional super-profits and surplus from a national and global economy (Knuth 2018a).

From the mid-2000s, urban organizers expressed growing concerns about the exclusions and costs of this new green growth. Racial and community justice institutions in places like West Oakland warned of its power to exacerbate an already highly uneven New Economy and its problems -- to once again pass impoverished communities by in terms of stable employment, atop existing harms from institutionalized racism and the carceral state (Gilmore 2007), environmental injustice, deindustrialization, and long-term urban disinvestment. In 2005, Van Jones questioned, "will the green wave lift all boats?" He was skeptical: "right now we have ecoapartheid. Look at Marin; they've got solar this, and bio this, and organic the other, and fifteen minutes away by car, you're in Oakland with cancer clusters, asthma, and pollution" (Jones, in Strickland 2005). These criticisms echoed similar calls for "just sustainabilities" (Agyeman and Evans 2003), which as the green wave spread -- increasingly as a project for urban (re)development and branding as much as clean energy transition -- have expanded into protests against new "green" gentrification (e.g., Checker 2011; Knuth 2016, 2018b).

However, in the late 2000s, a raft of organizers in Oakland and elsewhere simultaneously questioned whether the green economy opened up opportunities to do technologically advanced economic development differently. Raquel Pinderhughes helped translate Durning's green collar jobs concept to the urban Bay Area context around 2004 (e.g., Pinderhughes 2006). By 2005, Jones, who became green collar jobs' most visible U.S. champion, was working to disseminate the term and its organizing vision regionally, and jumping scale (Smith 1992) to reframe it as a national economic strategy. A raft of efforts in the late 2000s fleshed out this call (e.g., Gordon et al. 2008; Jones 2008). In a 2009 interview in *Antipode*, Jones articulated this strategy using similar Gramscian framing to that informing this paper, as one for galvanizing the U.S. left while building better energy and climate policy: "there is a struggle going on within the upper echelons of US capital...between the military-petroleum complex that's still the dominant bloc of capital, and greener less polluting forms of capital...we'd probably call it eco-apartheid, because it would be, left to its own devices, just as unjust and just as exploitative as gray capitalism." In the political moment of the late 2000s, he argued that left organizers should nonetheless ally strategically with the green bloc: "I don't believe everything works out better when it all falls apart, and certainly not from the position of relative organizational ideological weakness that the Left is in right now" (Jones, in Mirpuri, Feldman, and Roberts 2009, pp. 405-6). These kinds of efforts from Jones and others brought new prominence for community and racial justice organizers within the blue-green coalition -- including a seat for Jones on the board of the Apollo Alliance, and following Obama's 2008 election an administration position as green jobs advisor.

The 2008 Presidential election, amid the popular anger and openings of the financial crisis, gave new force to the green collar jobs movement. Its organizing was fueled by a broader wave of left populism that included calls for punishing bankers and condemnations of financial sector parasitism on the "real economy", on a spectrum between radical protest and (ultimately dominant) technocratic quasi-fixes. Green collar jobs discourses articulated commonalities between U.S. interests, sectors, places, and populations dispossessed and damaged in the crisis, including black and minority communities particularly targeted for exploitative subprime loans (and see Coates 2014). Moreover, they spoke to the longer-term abandonments, ravages, and political undermining of decades of neoliberal political rollout: of polluted and disinvested urban neighborhoods like West Oakland, but also labor unions, disinvested industrial regions like the Rust Belt, and frustrated climate activists. This organizing aided in the consolidation of a significant constituency in Obama's successful 2008 Presidential campaign (one whose commonalities and political potential remain apparent if embattled in the 2010s, as Bernie Sanders' 2016 primary run and subsequent democratic socialist organizing have sounded many similar notes).

As Obama's election gave the green collar jobs call a level of national policy support in the late 2000s, it encountered new pressures and dilemmas. In the United States, its organizing vision was increasingly translated into programs for a new, "green" New Deal and revived Keynesianism (and see Tienhaara 2014 on similar visions abroad) -- with considerable ambiguities in how the U.S.'s nascent green economy would support such broad-based employment. Manufacturing experienced a moment of popular cultural enthusiasm -- a (temporary) turn from accustomed lionization of post-industrialism since the New Economy.

However, none of a still-young crop of cleantech start-ups provided a clear path to breaking through to a new U.S. Golden Age: of global green manufacturing leadership and rents, but with national surplus to be this time shared and redistributed beyond the white working class. Certainly the stimulus and subsequent Obama Administration programs contained stabs at resurrecting U.S. industrial policy. (This proved an uphill battle for a cascade of tech sector, domestic political, and global economic reasons too extensive to treat here, but see Block and Keller 2011; Caprotti 2015, 2017; Mazzucato 2015; Mulvaney 2016; Knuth 2017, 2018a; Goldstein 2018 for various elements.) Quickly, however, it became clear that the construction sector was to provide the bulk of immediate green collar jobs in programs such as the crisis-era stimulus package. This was so for reasons besides the uncertain future of U.S. manufacturing. The collapse of the U.S. housing bubble fueled a keen construction lobby and clear political sell: "[putting] construction workers back to work with good jobs that can't be outsourced" (White House 2013). Moreover, already-existing technologies for rooftop solar, building energy retrofits, and utility-scale renewable energy needed no blue-sky cleantech breakthroughs to deploy. Some funding candidates like the federal weatherization assistance program (WAP) already possessed institutional infrastructure and seemed to need only an influx of money to become eminently "shovel-ready" (WAP received \$5 billion in the stimulus, then nearly equal to its cumulative funding over its thirty-plus year history; DOE 2009; Tonn et al. 2011).

Construction jobs represented a significant opportunity for additional reasons. One notable green collar jobs call during the 2008 campaign came from the Emerald Cities Partnership, a collaboration of entities including COWS and the Service Employees International Union (SEIU) (Grabelsky and Thompson 2010). Proponents sold green construction as an opportunity

to effect multiple levels of redress and reparation simultaneously: to a working class hurting from the financial crisis, and particularly to black and minority workers. U.S. building trades unions were historically notorious for their racial exclusions (Kazin 1988; Sugrue 2004). Now, minority workers were to be ushered in with union leaders' eager welcome, and open acknowledgment of past wrongs (see, for example, Ayers in Grabelsky 2010). Of course, there was political calculation here, but one with broad potential benefit. The sector promised substantial job numbers if successful -- although a host of economic modelers debated precisely how many, and how in any case to define a green economy and labor within it. And this prospective employment did not benefit only cities and workers of color. For decades, programs like WAP have worked equally to ameliorate white rural poverty (Harrison and Popke 2011). To try to safeguard the quality of jobs created, administration programs used both union tools like Project Labor Agreements (PLAs) (which the George W. Bush Administration had banned on federally funded projects) and other federal instruments like prevailing wage rates, via the Davis-Bacon Act. When the latter was applied to WAP funding, some unions speculated that it might help reverse the U.S. residential construction sector's long decline in union density, pay, and job quality (Fine 2011; Osterman and Chimienti 2012).

Reflecting on these early Obama Administration years, it is easy to find classic problems of populism. Supporters drawn to Obama's personal charisma and galvanizing but empty signifiers like shared "hope" were disappointed for multiple reasons. Genuine missed opportunities for transformative politics⁵ combined with mundane institutional roadblocks -- for example, WAP expansion was notoriously slow, and proved limited in its ability to reform housing construction. Moreover, decades of neoliberal political restructuring, ideological undermining, and non-

planning presented a formidable challenge. However, green collar organizing work from the late 2000s continues to bear fruit and evolve as a political strategy. For example, as California rolls out ambitious clean energy and climate programs, labor and the building trades are forging a noteworthy advocacy and policy-shaping role. The prospect of green collar jobs continues to bolster policies like the state's renewable portfolio standard (RPS), expanded in 2015 to require state utilities to obtain 50 percent of their power from eligible renewable resources by 2030. Moreover, it has helped defend California's climate policies against fossil industry attack, for example the fossil fuel industry-funded Proposition 23 in 2010. Much of the state's new clean power comes from utility-scale solar deployment in rural areas. And since most of this infrastructure has been constructed with unionized building trades labor, job quality is protected by PLAs (which mandate union wages, benefits, and employer training support) and by statecertified union apprenticeship programs (Jones, Philips, and Zabin 2016). This labor infrastructure has had notable success in promoting a racially diverse workforce (Luke et al. 2017). Meanwhile, labor concerns have influenced debates such as the priority of California state support for different fractions of its clean energy industry, as high-tech players and policymakers back competing visions for the state's clean energy economy (and see Caprotti 2015; Knuth 2018a). In 2015, building trades unions helped defeat the rooftop solar industry's lobbying for support in California's expanded RPS (Roth 2015).⁸ As labor researchers argued, jobs in rooftop solar installation are generally non-union, less well-paid, and lower quality; as with the residential construction work that they resemble in other ways (Jones and Zabin 2015). Such developments are suggestive rather than conclusive, but present a compelling case for ongoing analytical and political attention.

Future Directions: From Green Populism to Green Industrial Policy?

Moving forward, the political experience discussed here suggests multiple insights for energy-environmental scholarship and praxis. First, it argues that as scholars, we need to think more carefully about how we theorize and examine notions like post-political populism, particularly as regards the role of left populisms in more overtly liberal-technocratic formations (as indeed Obama era programs could appear and be). In part, this is a call *for* more empirical examination. In many ways, the concept of the post-political poorly reflects the material and political messiness and contestations of climate and energy politics on the ground. Nor does it capture the shifting and contingent alliances involved in dismantling a still-dominant fraction and form of capital/ism. As charges of left-elite condescension fly today, including against academics, we must take more care to engage what left populist strategy looks like in its own varying calculations.

Second, this discussion suggests a window into distinct forms of grievance and reparation arising in the experience of clean energy transition, painful as it will be on its losing end. That such an experience should stir populist anger should surprise no one. At the same time, such justified grievance is one among many forms competing for remedy and reparation today, dense indeed in the U.S. contemporary context. Critical energy scholars must cast an eye toward the latter side of this equation as well as the former. What forms of reparation *are* available in the difficult contexts we examine, and can we help imagine political strategies that more adequately conjoin pragmatism and restorative justice in their application? The 2016 Presidential elections saw various alternatives mooted, which from the left included substantial reparations payments to US

coal regions. In tackling this thorny problem, the option of green collar jobs creation remains a significant one for conceptual and political attention.

Finally, this conclusion suggests a key task for geographical scholarship, and the distinctive toolkit that political economic/ecological analysis brings to bear on energy transition as a problem, in and beyond the United States. Whatever the strategic achievements and failings of the left populist organization surveyed in this discussion, one element that it chronically lacked in the 2000s was a clear strategy for more comprehensive green economic development beyond strategic sectors. Left populist alliances may have successfully gotten a foot in the door in certain political forums, but sectors like construction remain troublingly dependent upon higher-level industrial strategies and choices for their long-term prospects. How can we translate a role such as now being experimented with in California into a more powerful say in not just who builds clean energy infrastructure, but what that clean energy infrastructure consists of and means? Resistance from an intransigent fossil fuel bloc and its conservative populist base at home, or China's undeniable successes as a green industrial powerhouse abroad, can only partially account for existing limitations here. In addition, we must look critically to U.S. industrial policy -- or rather, the country's long lack of an open one (Block and Keller 2011; Mazzucato 2015; Knuth 2018a). If any dimension of U.S. climate politics remains genuinely and stubbornly postpolitical, it is a techno-industrial culture that persistently subordinates both left populists and policy technocrats themselves to familiar New Economic fallacies: the need for entrepreneurial and venture capitalist "genius" and "breakthroughs" to solve problems like energy transition, the assumed inadequacies of government economic development planning, and the political

irrelevance of most people affected in this decision-making. All of these propositions present genuine opportunities for geographers' intervention: critical, practical, and imaginative.

Acknowledgements

Thanks very much to two anonymous reviewers for their constructive comments on a draft version of this article, as well as to James McCarthy for his editorial support and guidance. For thoughtful feedback on earlier versions of this argument, my deep thanks also to Peter Wissoker, John Stehlin, Noah Quastel, and participants in the "Biopolitics and Environmental Justice" workshop organized by Alida Cantor and Catherine Jampel at the 2016 Dimensions of Political Ecology Conference.

References

Agyeman, J. and T. Evans. 2003. Toward just sustainability in urban communities: building equity rights with sustainable solutions. *The Annals of the American Academy of Political and Social Science* 590 (1):35–53. doi: 10.1177/0002716203256565.

Andreucci, D. 2018. Populism, hegemony, and the politics of natural resource extraction in Evo Morales's Bolivia. *Antipode* 50 (4):825–845. doi: 10.1111/anti.12373.

Gordon, K., J. Hays, J. Walsh, B. Hendricks, and S. White. 2008. *Green-collar jobs in America's cities: Building pathways out of poverty and careers in the clean energy economy*. Apollo Alliance and Green For All with the Center for American Progress and the Center on Wisconsin Strategy, San Francisco, CA, Oakland, CA, Washington, DC, and Madison, WI.

- Baka, J. 2013. The political construction of wasteland: Governmentality, land acquisition and social inequality in South India. *Development and Change* 44 (2):409–428. doi: 10.1111/dech.12018.
- Block, F. and M.R. Keller, M.R., ed. 2011. *State of innovation*. Boulder, CO: Paradigm Publishers.
- Bridge, G., S. Bouzarovski, M. Bradshaw, and N. Eyre. 2013. Geographies of energy transition: Space, place and the low-carbon economy. *Energy Policy* 53:331–340. doi: 10.1016/j.enpol.2012.10.066.
- Caprotti, F. 2015. Golden sun, green economy: market security and the US/EU-China 'solar trade war'. *Asian Geographer* 32 (2):99–115. doi: 10.1080/10225706.2015.1057191.
- 2017. Protecting innovative niches in the green economy: investigating the rise and fall of Solyndra, 2005–2011. *GeoJournal* 82 (5): 937–955. doi: 10.1007/s10708-016-9722-2.
- Checker, M. 2011. Wiped out by the "greenwave": Environmental gentrification and the paradoxical politics of urban sustainability. *City & Society* 23 (2):210–229. doi: 10.1111/j.1548-744X.2011.01063.x.
- Coates, T.N. 2014. The case for reparations. *The Atlantic* 313 (5):54-71.
- Cockburn, A. and J.S. Clair. 2000. Five days that shook the world: Seattle and beyond. New York: Verso.
- Collard, R.C., J. Dempsey, and J. Sundberg. 2015. A manifesto for abundant futures. *Annals of the Association of American Geographers* 105 (2):322–330. doi: doi.org/10.1080/00045608.2014.973007.
- Durning, A.T. 1999. *Green-collar jobs: Working in the new Northwest*. Seattle, WA: Sightline Institute.

- U.S. Department of Energy (DOE). 2009. Weatherization Assistance Program The American Recovery and Reinvestment Act of 2009. DOE Office of Energy Efficiency and Renewable Energy, Washington, DC.
- Fine, J. 2011. When the rubber hits the high road: labor and community complexities in the greening of the Garden State. *Labor Studies Journal* 36 (1):122–161. doi: 10.1177/0160449X10397647.
- Frank, T. 2007. What's the matter with Kansas? How conservatives won the heart of America.

 New York: Metropolitan Books.
- Fraser, S. and G. Gerstle, ed. 1989. *The rise and fall of the New Deal order, 1930-1980*.

 Princeton, NJ: Princeton University Press.
- Gilmore, R.W. 2007. *Golden gulag: Prisons, surplus, crisis, and opposition in globalizing California*. Berkeley, CA: University of California Press.
- Goldstein, J. 2018. *Planetary improvement: Cleantech entrepreneurship and the contradictions of green capitalism*. Cambridge, MA: MIT Press.
- Grabelsky, J. 2010. "We're getting our country back": Reflections on politics, race, labor and community in the age of Obama. *WorkingUSA* 13 (4): 545-559. doi: 10.1111/j.1743-4580.2010.00311.x.
- Grabelsky, J. and P. Thompson. 2010. Emerald cities in the age of Obama: A new social compact between labor and community. *Perspectives on Work* 13 (2):15–18.
- Harrison, C. and J. Popke. 2011. "Because you got to have heat": The networked assemblage of energy poverty in Eastern North Carolina. *Annals of the Association of American Geographers* 101 (4):949–961. doi: 10.1080/00045608.2011.569659.

- Hart, G. 2012. Gramsci, geography, and the languages of populism. In *Gramsci: Space, nature, politics*, ed. M. Ekers, G. Hart, S. Kipfer, and A. Loftus, 301–320. Hoboken, NJ: Wiley-Blackwell.
- Harvey, D. 1982. The limits to capital. Oxford: Blackwell.
- Huber, M.T. 2017. Hidden abodes: Industrializing political ecology. *Annals of the American Association of Geographers* 107 (1):151–166. doi: 10.1080/24694452.2016.1219249.
- Huber, M.T. and J. McCarthy. 2017. Beyond the subterranean energy regime? Fuel, land use and the production of space. *Transactions of the Institute of British Geographers* 42 (4):655–668. doi: 10.1111/tran.12182.
- Jones, V. 2008. The green collar economy. New York: HarperCollins.
- Jones, B., P. Philips, and C. Zabin. 2016. *The link between good jobs and a low carbon future:*Evidence from California's Renewables Portfolio Standard, 2002-2015. UC Berkeley Labor Center, Berkeley, CA.
- Jones, B. and C. Zabin. 2015. UC Berkeley Labor Center Blog post: are solar jobs good jobs? http://laborcenter.berkeley.edu/are-solar-energy-jobs-good-jobs/ (accessed 21 July, 2018).
- Kazin, M. 1988. *Barons of labor: The San Francisco building trades and union power in the progressive era*. Champaign, IL: University of Illinois Press.
- Knuth, S. 2016. Seeing green in San Francisco: City as resource frontier. *Antipode* 48 (3):626–644. doi: 10.1111/anti.12205.

- 2017. Green devaluation: Disruption, divestment, and decommodification for a green economy. *Capitalism Nature Socialism* 28 (1):98–117. doi:
 10.1080/10455752.2016.1266001.
 2018a. "Breakthroughs" for a green economy? Financialization and clean energy transition. *Energy Research & Social Science* 41:220–229. doi: 10.1016/j.erss.2018.04.024.
 2018b. Cities and planetary repair: The problem with climate retrofitting. *Environment and Planning A: Economy and Space* OnlineFirst publication:1–18.
 10.1177/0308518X18793973.
- Laclau, E. 1977. Towards a theory of populism. In *Politics and ideology in Marxist theory*, 143–200. New York: Verso.
- ——— 2005. On populist reason. New York: Verso.
- Latour, B. 2011. Love your monsters. *Breakthrough Journal* 2 (11): 21–28.
- ——— 2015. Fifty shades of green. *Environmental Humanities* 7 (1): 219–225.
- Luke, N., C. Zabin, D. Velasco, and R. Collier. 2017. *Diversity in California's clean energy workforce: access to jobs for disadvantaged workers in renewable energy construction*. UC Berkeley Labor Center, Berkeley, CA.
- Markusen, A.R., S. Campbell, S. Deitrick, and P. Hall. 1991. *The rise of the gunbelt: The military remapping of industrial America*. Oxford: Oxford University Press.
- Mazzucato, M. 2015. *The entrepreneurial state: Debunking public vs. private sector myths.* New York: Anthem Press.
- McCarthy, J. 2002. First World political ecology: Lessons from the Wise Use movement. *Environment and Planning A: Economy and Space* 34 (7):1281–1302. doi: 10.1068/a3526.

- McEwan, C. 2017. Spatial processes and politics of renewable energy transition: Land, zones and frictions in South Africa. *Political geography* 56:1–12. doi: 10.1016/j.polgeo.2016.10.001.
- McGirr, L. 2002. *Suburban warriors: The origins of the new American right*. Princeton, NJ: Princeton University Press.
- Mulvaney, D. 2016. Energy and global production networks, In *The Palgrave Handbook of the International Political Economy of Energy*, ed. T. Van de Graaf, B.K. Sovacool, A. Ghosh, F. Kern, and M.T. Klare, 621–640. Basingstoke, UK: Palgrave Macmillan UK.
- Mirpuri, A., K.P. Feldman, and G.M. Roberts. 2009. Antiracism and environmental justice in an age of neoliberalism: an interview with Van Jones. *Antipode* 41 (3): 401–415. doi: doi.org/10.1111/j.1467-8330.2009.00680.x.
- Osterman, P. and E. Chimienti. 2012. The politics of job quality: A case study of weatherization. *Work and Occupations* 39 (4):409–426. doi: 10.1177/0730888412455155.
- Pasqualetti, M.J. 2011. Opposing wind energy landscapes: a search for common cause. *Annals of the Association of American Geographers* 101 (4):907–917. doi: 10.1080/00045608.2011.568879.
- Pinderhughes, R. 2006. Green collar jobs: Work force opportunities in the growing green economy. *Race, Poverty & the Environment* 13 (1):62–63.
- Robbins, P. and S.A. Moore, S.A. 2015. Love your symptoms: a sympathetic diagnosis of the Ecomodernist Manifesto. *ENTITLE Blog* https://entitleblog.org/2015/06/19/love-your-

- <u>symptoms-a-sympathetic-diagnosis-of-the-ecomodernist-manifesto/</u> (accessed 5 September, 2018).
- Roth, S. 2015. Rooftop solar battle brewing in Sacramento. *The Desert Sun* 10 July.
- Storper, M. and R. Walker. 1989. *The capitalist imperative: Territory, technology, and industrial growth*. Oxford: Blackwell.
- Sugrue, T.J. 2004. Affirmative action from below: Civil rights, the building trades, and the politics of racial equality in the urban north, 1945–1969. *The Journal of American History* 91 (1):145–173. doi: 10.2307/3659618.
- Smith, N. 1992. Contours of a spatialized politics: Homeless vehicles and the production of geographical scale. *Social text* 33:55–81. doi: 10.2307/466434.
- Swyngedouw, E. 2010. Apocalypse forever? *Theory, Culture & Society* 27 (2-3):213–232. doi: 10.1177/0263276409358728.
- Strickland, E. 2005. The new face of environmentalism. East Bay Express 2 November.
- Tienhaara, K. 2014. Varieties of green capitalism: Economy and environment in the wake of the global financial crisis. *Environmental Politics* 23 (2):187–204. doi: 10.1080/09644016.2013.821828.
- Tonn, B., E. Rose, R. Schmoyer, J. Eisenberg, M. Terns, M. Schweitzer, and T. Hendrick. 2011. *Evaluation of the National Weatherization Assistance Program during Program Years 2009-*2011 (American Reinvestment and Recovery Act Period). ORNL/TM-2011/87, Oak Ridge
 National Laboratory, Oak Ridge, TN.
- Walker, P.A. 2003. Reconsidering 'regional' political ecologies: toward a political ecology of the rural American West. *Progress in Human Geography* 27 (1):7–24. doi: 10.1191/0309132503ph410oa.

White House. 2013. Policy snapshot: Creating jobs.

http://www.whitehouse.gov/snapshots/creating-american-jobs (accessed 1 September, 2013).

SARAH KNUTH is an Assistant Professor in the Department of Geography at Durham University, Lower Mountjoy, South Road, Durham DH1 3LE, United Kingdom. E-mail: sarah.e.knuth@durham.ac.uk. Her research interests span various topics in the geographical political economy and ecology of property, finance/financialization, urban-regional geographies, work, and technology, with a particular focus on the politics of climate change, clean energy transition, and the green economy.

_

¹ And in similar energy-producing contexts -- internal conflicts different from the populist possibilities of an external enemy.

² Ironically, threatened most directly by that same boom in unconventional oil and gas. These explanations remain important, alongside factors like cultural grievance and white racist revanchism.

³ Or to entice fossil industry executives all too likely to abandon existing workers and regions once sufficiently attractive alternatives and exit strategies present themselves -- more straightforward here than in places with more complex extractive industry politics (e.g., Andreucci 2018).

⁴ This discussion of populism and/as strategic alliance-building draws primarily on Laclau's Gramsci-influenced theorization (1977, 2005) (particularly, following Hart 2013 and Andreucci 2017, Laclau's earlier, more political economic conceptualization) -- although with several returns to Swyngedouw's (2010) notion of the post-political. It builds on fieldwork conducted in the Bay Area between 2008 and 2013, as regional green collar jobs calls consolidated and were incorporated into U.S. federal policy. Besides participant observation and policy analysis in relevant forums (both for green collar jobs organizing and the cleantech industry), this investigation and follow-ups have involved extensive engagement with contemporary archives -- for example, tech industry news and blogs, think tank publications, government gray literature, and labor research published in policy and academic forums (including by geographers, e.g., Luke et al. 2017).

⁵ And other concessions, as when Van Jones was let go from his advisory role after attacks from Congressional Republicans.

⁶ Notably, Koch Industries. Made via the (unsuccessful in this case) use of the ballot initiative, California's quintessentially populist direct democracy instrument.

⁷ Less so in increasing gender diversity, an ongoing problem in construction employment.

⁸ Although rooftop solar is not included within generation sources eligible for California's RPS, it has been supported by other state policies.