Gender and the Green Economy

By

Anna Kern

Submitted to the graduate degree program in Sociology and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

_____
Chairperson Joey Sprague

_____
Robert J. Antonio

_____
Kelly H. Chong

_____
Paul V. Stock

_____
Steven Maynard-Moody

Date defended: July 2, 2018

The dissertation committee for Anna Kern
certifies that this is the approved version of the following dissertation:

Gender and the Green Economy

_____
Chairperson Joey Sprague

Date approved: July 26, 2018

Abstract

The Green Economy is supposed to be sustainable but is it? Being sustainable would entail being equitable. Feminist scholarship shows that the mainstream economy is thoroughly organized by gender, is inequitable, and facilitated by the marginalization of reproductive labor or care work. Ecofeminist theory broadens feminist analysis by situating human social relations in the broader context of our relationship with the environment. In this dissertation I begin from the standpoint of women to explore the degree to which gender inequality is organizing the green economy in the U.S. I argue that a key mechanism reproducing gender inequality is the privileging of green jobs in industries dominated by men and the marginalization and devaluation of environmental care work. I do this by analyzing the organization of the green labor market in the US and through observing the organization and implementation of a program to foster green economic development in an urban area in the Midwest. Understanding the gendered nature of the green economy is important for advancing knowledge about gender segregation and integration of labor markets, gender equality in employment, and gendered opportunities in growing green sector of the economy. This research contributes to scholarship on gender and work, the green economy, ecofeminism, and care work.

Table of Contents

Chapter 1: Introduction

The green economy has a gender problem. A green economy promises social, environmental, and economic sustainability. It seems reasonable to assume the green economy would not suffer from the same forms of gender inequality – i.e., unequal employment opportunities or an unfair distribution of household labor – as the outdated, unsustainable economy it is meant to replace. Being sustainable would entail being equitable. However, we don't know whether the green economy is gender equitable because those who are organizing and analyzing the green economy are not asking about gender equality.

There is a long line of research showing that the mainstream economy is thoroughly organized by gendered inequality. Feminists have found that an important mechanism facilitating gender inequality is the marginalization of reproductive labor or care work. Ecofeminist theory broadens feminist analysis by situating human social relations in the broader context of our relationship with the environment. A feminist methodology informed by ecofeminist theory would suggest that the way to discover the gendered character of the green economy is to begin from the standpoint of women as environmental actors. Research guided by ecofeminist theory exposes dynamics and whole areas of necessary labor that mainstream environmental economics is missing. In this dissertation I begin from the standpoint of women to explore the degree to which gender inequality is organizing the green economy in the U.S.

Several lines of scholarly and political discourse inform discussions of the green economy. In this chapter I describe the mainstream view of the green economy and green jobs, presenting the common formulations of each. I give an overview of mainstream approaches to studying the green economy from environmental economics and environmental sociology. I

argue this literature, just like the mainstream view of the green economy, is gender-blind. There is a small body of literature, mostly focused on women in developing countries, that brings aspects of gender within the green economy into view. However, there are questions that are unanswered or under-answered around how green economic efforts are reproducing patriarchal patterns of work. Research on environmental behaviors makes visible the unseen work of the green economy. I use the term environmental care work to help bring into view feminized and devalued environmental labor.

This dissertation examines the green economy through the lens of ecofeminist theory. Ecofeminism focuses on how the oppression of women and of nature are linked. I argue the perspective that comes into view when taking gender into account shows the green economy's bias towards productive (male, capitalist) vs. reproductive (female, ecological) labor. I suggest that the evidence indicates there is a gender division of labor in the green economy that mimics the division of labor by gender in the economy writ large.

WHAT IS THE GREEN ECONOMY?

There are many ideas about what a green economy is or should be. There is no commonly accepted definition, or commonly agreed upon metrics for measuring the greenness of an economy or an industry (ILO 2011). Businesses, governments, policy think-tanks, development agencies, economists and environmentalists have weighed in on this issue coming to different conclusions. Some focus on environmentally friendly products and changes to current production practices (U.S. 2010). Other definitions focus on repairing existing environmental damage (UNEP 2008). Still other definitions base the greenness of economic activity on one metric like the amount of fossil fuel used or greenhouse gas emissions produced (ILO 2011).

None of these definitions explicitly consider gender. Most of the mainstream conceptualizations of the green economy appear to be developed from the standpoint of privileged men.

The mainstream conceptualization of green economy is focused on products and services that reduce environment impact of current production process or repair existing damage. The importance of environmental care work, the reproductive work that sustains and maintains the planet and those living here, is often downplayed. For example, the U.S. Department of Labor's Bureau of Labor Statistics counts environmental friendly products, production processes, and business practices when measuring the green economy (U.S. Department of Labor 2010). Products and productive practices takes center stage. Green jobs are defined in relation to practices which produce environmentally friendly products or preserve natural resources to ensure future use:

> Jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources. Jobs in which workers' duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources. (U.S. Department of Labor 2010).

There are a few issues with this conceptualization. First, a job that focuses on reducing the amount of carbon dioxide pollution from coal burning power plants is counted the same as a job in wind or solar power production, despite huge differences in the amount of climate changing emissions produced. The difference in environmental harm is erased. Secondly, this formulation of green work is geared towards minimizing, not eliminating, the environmental damage caused by current production and resource extraction. The focus is on reducing waste and environmental harms within current production practices, rather than disrupting or replacing industries and activities that are known to cause lasting environmental damage.

The U.S. Department of Labor's definition of the green economy and green jobs focuses on the productive economy. The productive economy includes waged worked that produces a

good or services measured by the GDP. In contrast, the United Nations Environment Programme's (2008) definition includes reproductive environmental work by describing green jobs as:

> …work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute substantially to preserving or restoring environmental quality. Specially, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high-efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution. (P.3)

Reproductive labor, like regenerative ecosystem services, is work that restores, repairs, or reproduces. This type of work is typically unseen, undervalued, and not counted in economic measures. A conceptualization of the green economy that ignores reproductive work suffers from the same limits of sight as the common conceptualization of the general economy: i.e., a conceptualization of what is "productive" that excludes a lot of the work required to get the job done, including reproductive labor. The conceptualization of the green economy treats economic work as if it is gender neutral. It is not.

THE ECONOMY IS GENDERED

There is a long line of research showing that the mainstream economy is thoroughly organized by gender inequality. Feminist have made the case that women's unpaid reproductive labor is an unrecognized building block of the economy since the 1970s (see the work of Mariarosa Dalla Costa, Mary O'Brien, Maria Mies, or Evelyn Nakano Glenn). Women's unpaid labor is essential for the reproduction of labor power. Women pick up the slack where the economy or state fails to provide basic services necessary for the functioning of the economy, i.e. healthcare, daycare, eldercare. Women pay the tab by doing the work for free, donating their time, or paying

someone else to do these jobs. Feminist economists have frequently pointed out how this work is ignored by the economics discipline (Waring, 1988; Ferber and Nelson 1993, Folbre 1994).

Reproductive Work, Externalities, and the Tragedy of the Commons

Two concepts from environmental economics and ecological economics - externalities and the tragedy of the commons - are useful to this discussion of gender and the green economy. These ideas help bridge the gap between the environmental work and reproductive work. The fields of environmental economics and ecological economics study the impact of economic activity on the environment. These fields focus on cost-benefit analysis of environmental policies and the failure of the market to accurately account for the economic value of natural resources and ecosystem services. For example, environmental and ecological economics describe how the actual value of the environment's ability to absorb and render harmless waste left over from production processes is not included in economic measures (Pearce 2002). These fields build upon human ecologist Garrett Hardin's (1968) influential "tragedy of the commons" theory. Hardin argues that any natural resource has an optimal rate of use or abuse and without proper economic mechanism in place to prevent overuse, natural resources will be used or abused until exhausted and unable to regenerate (Pearce 2002).

Environmental economics employs the term "externality" to describe how the true costs of environmentally destructive economic activity, and the true benefits of "free" natural resources or ecosystem services like clean air or water, are hidden. Environmental economics argues for the internalization of externalities so costs are attributed to entities that choose to incur them. An externality can be positive or negative. An example of a negative externality is the price of an aluminum can. This price does not include costs associated with greenhouse gas

emissions emissions belched out of aluminum smelting plants, or those associated with recycling or landfill space for the can at the end of its life-cycle is. A positive externality is illustrated by the work of a bee keeper. The bee keeper gets honey, but others who have fruit trees or garden nearby get free pollination services from the bees and the resulting apples, cucumbers, peppers, melons, etc.

Ecological economics moves beyond the here-and-now cost-benefit analysis of environmental economics and considers sustainability, preservation of natural resources or "natural capital", and intergenerational issues associated with environmental problems. Based on the premise that the economy is a subsystem of the environment, ecological economics views society as operating within ecological systems and limits. This body of scholarship is more inclined to see the market economy as the source of environmental problems, rather than the solution (see Speth 2008). Ecological economists argue that market signals need correction, that subsidies distort true environmental cost, and call for an environmentally honest prices.

I see similarities between the disregard for women's reproductive work and environmental and ecological economics' theories of externalization and the tragedy of the commons. Environmental costs, the true value of natural resources, and ecosystem services are externalized or exploited. Yet natural resources and regenerative ecosystem services provide a perpetual supply of raw materials for economy. Similarly, household labor, also know as reproductive labor or care work, provides the economy a perpetual supply of healthy, productive laborers (Folbre 2004; Waring 1989). Companies do not have to give birth to or raise their workforce, instead it is a free natural resource. Consider how companies get greater productivity out of healthy adults without having to incur the costs or the spend time to keep people rested, healthy, clean, and fed. This is similar to ecosystem services that biologically filter out

pollutants producing clean, healthy air or soil. We get the benefit from clean air and water without having to incur the cost or do the work. Most of that work is done naturally by ecosystems. Likewise, a company that benefits worker's productivity does not have to take care that worker for it's life-cycle. This cost of elder care, for the most part, is externalized.

The work of social reproduction has wide spread social benefit, and direct benefits to companies, but the costs are incurred by individuals who will not reap all the benefits. It's as if reproductive work was a free, naturally sustaining resource to be extracted for the benefit of the economy, like trees. It's as if reproductive work was an ecosystem service, a free source of recycling and rejuvenation for economic byproducts and wastes in the form of human bodies.

Reproductive work is a social, gendered "tragedy of the commons." It is an over harvesting of women's reproductive labor. The social benefits of the commons, or the common social good provided by reproductive labor, are not reflected in the market. For example, reducing GHG emissions and lessening impact of climate change is a public good. All can enjoy the benefits of other's efforts without having to pay the costs of reducing GHG emissions or do the necessary work. Raising children creates informed and useful neighbors, citizens, and workers. This is a public good and a source of labor power, productivity and profit. Reproductive work by women and the environment provide widespread benefits that is not taken into account or valued accurately.

Ecological economists argue that the economy needs to correct market signals that distort true environmental costs. They call for an environmentally honest price. Feminist economists argue contemporary capitalism needs to take into account the true value of social reproductive labor (Held 2002). A "socially honest price" for reproductive work is necessary.

ECOFEMINST THEORY

Ecofeminist theory would predict that an over-harvesting of women's reproductive labor would go hand-in-hand with an over-harvesting of nature's resources and a stressing of the environments ability to regenerate and repair itself. Ecofeminism bridges the divide between feminist theory, environmental and ecological economics, and reproductive work / care work by linking capitalist exploitation of people and the environment. Ecofeminist theory helps to explain why women's reproductive work and ecosystem services are both devalued, and how this unjust social organization of labor is maintained.

Building upon liberal, Marxist, radical, socialist, black and Indigenous feminism, ecofeminist theory reinforces the feminist assertion that 1) there are multiple forms of feminism, and 2) all forms of oppression that women face are linked. Modern ecofeminists activist and scholars find affinity and solidarity in the work of black feminists, indigenous feminist, queer theorist and others who support a "mutually reinforcing" thesis that describes how multiple forms of oppressions function within the modern, globalized system of exploitation and domination – i.e., under capitalist patriarchy (Mies and Shiva 1993). Ecofeminism extends the understanding of mutually reinforcing and reconstituting oppressions to include the domination of nature. Karen Warren (1997) explains:

> …academic feminists have come to see that liberation of women cannot be achieved until all women are liberated from the multiple oppressions that structure our gendered identities: women of color from racism, poor women from classism, lesbian women from heterosexism, young and older women from ageism, Jewish women from anti-Semitism, women of the South from ethnocentrism. What makes ecofeminism distinct is its insistence that nonhuman nature and naturism (i.e. the unjustified domination of nature) are feminist issues. (P.4)

The unjustified domination of nature is a feminist issue because understanding it helps one understand the oppression and subordination of women (Mies 1986). Both are oppressed and

subordinated under the same system of domination, patriarchal capitalism, which deploys ideology to justify the mutually reinforcing domination of "others" (i.e., non-white, Western, men), women, and nature. And, there are material consequences.

Ideological Link: Naturist language, Western Dualisms and The Logic of Domination

Building upon feminist theory that describes the role of western dualist thinking in the objectification and domination of women (Mellor 1997; Plumwood 1993; Merchant 1980, O'Brien 1981) ecofeminist theory draws attention these dualisms:

man / woman

reason / emotion

culture / nature

mind / body

activity / passivity

thought / matter

separate / connected

European / barbarian

human / animal

These hierarchal dualisms underpin the logic of domination, indicating hierarchical opposition and juxtaposition (Warren 1990). This "dualized structure of otherness and negation" (Plumwood 1993:42-43) forms the basis of a western master identity that is alienated from, and dominates, nature. In Western culture difference or separation from others and nature is stressed as a virtue, seen as a necessity for objectivity and rationality, and the private dominion of (some) men. This is what Fox Keller (1985) called myth of the "separative self" and Val Plumwood

(1993) termed "hyperseperation." It is an oppressive conceptual framework characterized by: (1)hierarchical thinking which attributes greater value to one over the other; (2) disjunctive pairs seen as exclusive and oppositional rather than inclusive and complementary; (3) conceptions of power that includes power-over; (4) conceptions of privilege that maintain and justify the dominance; and (5) a logic of domination which is, "a structure of argumentation which provides the moral justification of subordination, viz., that superiority justifies subordination." (Warren 1997:20).

These dualisms form the ideological link between women and nature, with both seen as less than (Ortner 1972). And, they are mutually reinforcing. As Karen Warren writes, "The exploitation of nature and animals is justified by feminizing them; the exploitation of women is justified by naturalizing them" (1997:12). This extends to the economy:

> …the list of hierarchical dualisms that underlie much of western thought can be extended to include many characteristics that define contemporary economics. Mainstream economics as a profession privileges the public (market and government) over the private (family); agents over institutions; self-interest over other-interest; autonomy over dependence; mathematical analysis over verbal analysis; abstract models over concrete studies; 'positive' over 'normative'; and efficiency over equity (Nelson 1997:159)

Ecofeminists assert these hierarchical dualisms maintain and legitimate male dominance and the functioning of the economy. Bell et al. (2000) write:

> "This assumption of human difference and superiority, central to Western thought since Aristotle (Abram, 1996, p. 77), has long been used to justify the exploitation of nature by and for humankind (Evernden, 1992, p. 96). It has also been used to justify the exploitation of human groups (e.g., women, Blacks, queers, indigenous peoples) deemed to be closer to nature - that is, animalistic, irrational, savage, or uncivilized (Gaard, 1997; Haraway, 1989, p. 30; Selby, 1995, pp. 17-20; Spiegel, 1988). This "organic apartheid" (Evernden, 1992, p. 119) is bolstered by the belief that language is an exclusively human property that elevates mere biological existence to meaningful, social existence. Understood in this way, language undermines our embodied sense of interdependence with a more-than-human world. Rather than being a point of entry into the webs of communication all around us, language becomes a medium through which we set ourselves apart and above." (P. 193)

Consider the way language is used in the following statements: "Women are closer to nature." "Women are ruled by their emotions: irrational, natural, illogical." "Men are rational, use reason and logic." "Men can overcome their emotions." Consider what is deemed "primitive" vs. "civilized" culture and whether these categories are racial signifiers (Lutz and Collins 1997). Ecofeminists argue the connection between race and closeness to nature, or the level of development, has served as justifications for violent oppression, enslavement, and domination.

Nature-based definitions of what it means to be man/women, white/non-white, straight/gay, able-bodied/disabled are not only used to establish differences, they are employed as justification for violence, colonization, and oppression (Unger 2004; Bell et al. 2000; Gaard 1997; Mies 1986). Culture, reason, and men overcome nature, subdue it, place themselves outside of and master over nature. Women and non-whites are too close to nature, driven by natural forces, and must be civilized. This discourse of domination employs nature in its service. The environment is called barren, fertile, virgin. It is raped, mastered, mined, its depths are plunged. This is what Karen Warren calls "sexist-naturist language" (1997:12). Women are described in animalistic terms like pets, foxes, chicks, bitches, old bats, birdbrained. "Animalizing or naturalizing women in a (patriarchal) culture where animals are seen as inferior to humans (men) thereby reinforces and authorizes women's inferior status" (Warren 1997:12).

Carolyn Merchant calls this "controlling imagery" (1980:2). She argues that prior to the Scientific and Industrial Revolution people in the West lived in "daily, immediate, organic relation" with nature. Self, society and cosmos was an organism with interdependent parts. The individual was subordinated. Nature was a nurturing mother and also wild, uncontrollable, chaotic, and sometimes violent. Nature as nurturer was lost with the Scientific Revolution's focus on controlling, civilizing, and knowing Nature. The emphasis became domination and

mastery over nature. Controlling imagery can be a cultural constraint on what actions are allowed towards the earth (respect, harmony, symbiosis) or cultural sanctions that allow the process of mastering nature (mechanical instruments for mining, forcing, digging, cutting). Controlling images can "operate as ethical restraints or ethical sanctions – as stubble 'oughts' and 'ought nots'" (Merchant 1980:4).

By exploring the legacy of the human / nature dichotomy and the subsequent dichotomies of domination, one can see the connection between that which is natural (women, "others", nature) and that which is dominated (women, "others", nature).

Material Link: The Value of Women's Work, Men's Work, and Nature's Work

Ecofeminists often employ the example of the Chipko movement to help illuminate the material link between women and nature, and the domination of both. Vandana Shiva brought to the attention of western Ecofeminists the women-initiated Chipko movement in India which saved 12,000 square kilometers of native forests used by women for fuel, food, and medicine from destruction for teak and eucalyptus plantations. The livelihood of local women was inexorably tied to the health and diversity of the forest ecosystem. Both were threated by monoculture tree plantations destined for the global market with some local men and large corporations exclusively profiting. Neoliberal economic and "scientific" industrial agriculture ideologies served as the authoritative cover for a system of domination most accurately labeled "patriarchal capitalism" whereby some men profit, and women, "others", and nature lost. Warren writes (1997) just as "trees, forests, and forestry are a feminist issue", and "understanding the empirical connections between women and trees improves one's understanding of the subordination of women" (5).

Ecofeminist scholarship also provides empirical data that indicate the ways environmental harms disproportionately effect women and children (see Smith 1997). This body of research shows that in recent years awareness of environmental hazards and environmental injustices recasts bodies (often bodies of women, non-whites, and queers) as the location of environmental harms (via cancers, asthma, endocrine disrupters) (Di Chiro 2010; Gosine 2010; Moeckli and Braun 2001). These specifically raced, gendered, sexualized bodies are also cast as creators of environmental contamination with non-white women and queer men seen as pollutants. Poor non-white women are held responsible by environmentalist often, though tacitly, for "overpopulating" and placing stress on limited natural resources. Similarly, homosexual sex is articulated as harmful to healthy environments whereby cruising and sex acts in public places 'pollute' these spaces. The environment is also polluted by female hormones (via birth control and other medicines and chemicals that pass from humans into the environment) creating all female or hermaphroditic populations that threaten species survival. In this modern discursive link between gender, race, sex and nature women, non-whites, and queer sexualities are re-cast as both victim of environmental harms, and as sources of contamination.

Ecofeminism and the Green Economy

The material effect of, as Karen Warren describes it, "the methodological significance of omitting, neglecting, or overlooking issues about gender, race, class, and age in framing environmental policies and theories" (1997:14) is a green economic policy that ignores the way the gendered division of labor historically operates and impacts women. Definitions of the green economy focus on productive economic activities ignoring reproductive work. The focus is on reducing greenhouse gas emission from energy production or reduction in environmental harms

of current industrial processes rather than repairing or resting damaged environments (i.e. regenerative or reproductive work). Why?

Ecofeminist theory would predict that green economic efforts would reproduce patriarchal distortions in the economy. The focus on market driven solutions to build a green economy did not dismantle the economy's exploitative dependence on un- or underpaid regenerative (a.k.a. "reproductive") work. This sustaining work is primarily done by women. But it is also done by the environment. The reproduction of natural resources, the recycling of wastes, and all sources of energy that fuel the economy come from nature.

Ecofeminist theory argues the double discounting of the reproductive work women/others and nature is no accident. Robert Allan Sessions (1997) study on environmental work begins from an ecofeminist perspective and focuses on the valuation of women/men/nature work. He argues the jobs vs. the environment (or foresters vs. spotted owls) is a false dichotomy that forces a mis-valuation of economic growth and profit over reproductive work. He suggests this reparative work is a joy to do and builds society, family, and community. We value consumption over environmental conservation. We work a job to buy time off. We pay for leisure instead of incorporating rest, leisure, socializing into daily working life. Drawing upon Karen Warren's assertion that patriarchy is a dysfunctional system, Session argues that the root of these mis-valuations is hierarchical thinking (men's work over women's work, civilization over nature) and a logic of domination (a right to rule).

Perhaps one of the most beautifully damning ecofeminist critiques of the green economy, comes from James Goodman and Ariel Sallah (2014):

> As a response to global environmental breakdown, the 'green economy' is guided by the principle of business-as-usual. But capitalist commodification exhausts living ecosystems just as it exhausts and exploits human bodies. It performs a double alienation—of nature and of labour— and it leads to a 'metabolic rift' between rural resources and urban

> parasitism (Foster et al., 2010). The production process derives a surplus by means of material extraction from nature,' leaving behind a social debt to exploited workers, an embodied debt to unpaid women for reproductive labour, a postcolonial debt to peasants and indigenes for appropriating their livelihood, an intergenerational debt to youth, and an ecological debt to exosystemic nature at large (Salleh, 2010). (P.414)

Goodman and Sallah do not suffer from a blindness to the role of institutions that structure everyday life in constructing the "green economy". Drawing on ecofeminist theory, they are able to link the economic processes, environmental misuse, and the exploitation of women/others. In other words, they are able to link some of the best ideas from the fields of environmental / ecological economics and feminist theory. Likewise, Marjorie Griffin Cohen (2017) tackles the problem head on, arguing that

> …the most prominent ideas about green jobs and a green economy take the social organization, including the gendered division of labour, as given…In virtually all ideas of a green future the significance of social reproduction, and the gender implications of its role in creating a green economy, is not a crucial part of change. (P.298)

This phenomenon of ignoring the significance of green reproductive work is evident in policy reports and environmental programs that push protecting the environment thru personal responsibility at the individual or household level. The need for individual-level changes in energy usage, changes in consumption patterns towards the sustainable, organic, non-toxic, and local is frequently viewed as an immensely crucial and necessary part of change to save the environment (Wang 2016; Kennedy and Dzialo 2015; MacKendrick 2014; Cairns, Johnston and MacKendrick 2013; Judkins and Presser 2008; Bryson, McPhillips and Robinson 2001). However, "individual-level" changes really mean "household-level" changes. The implication is an increase in household "green" work for women who are expected to, and do, the majority of household work (Wang 2016; Judkins and Presser 2008; Casey and Martens 2007; Reed and Mitchell 2003; Schultz 1993). Green social reproduction, the work that meets the daily, direct needs of people and the environment, is often touted as a crucial part of change necessary to

green the economy. Changing the gendered nature of reproductive labor – green or otherwise - is not.

Ecofeminist theory helps explain how and why the exploitation of women and nature are linked. I see this in the way reproductive work of women and the environment are appropriated. Other ecofeminist scholars are making this connection as well. Christine Bauhardt (2014:61) writes, "The exploitation of nature and labor in the care economy is the basis of growth in any market economy." Ecosystem services, natural resources, and women's work are all considered economic "externalities." They provide a resources base and an invisible contribution to the economy. As Mary Mellor (2005) explains,

> Ecofeminist political economy sees a connection between the exploitation of women's labor and the abuse of planetary resources. Women and the environment are both marginalized in their positions within the formal economy. As economists have long recognized in theory, but often not in practice, the economic system often views the environment as a 'free', exploitable resource while it ignores or undervalues much of women's lives and work. Thus, the material starting point of ecofeminist analysis is the materiality of much of what the world defines as 'women's work' (although it is not necessarily all done by women or by all women), a theme that is also found in much of the work of feminist economists (P.123).

For me, this is the "linchpin" of ecofeminist critique of the economy: society's appropriation and exploitation of women's reproductive labor, "as if it were an infinitely available and gratuitous natural resource" (Floro 2012:15, cited in Bauhardt 2014). Ecofeminist theory helps illuminate the possibility that the green economy has a gender problem. Have exploitative aspects of patriarchy and capitalism been unreflexively carried over to the new, green economy?

MAINSTREAM APPROACHES TO STUDYING THE GREEN ECONOMY

Sociologists critique the social science research on the green economy, including ideas from environmental and ecological economics, arguing that the impact of social structure is often

overlooked (see Barr 2014; Brulle and Dunlap 2014). This body of scholarship expands upon environmental and ecological economics cost-benefit analysis to include social structures that constrain or inform economic activity. The sociological literature describes how a focus on individual economic actors obscures social systems. However, the mainstream approaches to studying the green economy from environmental economics, ecological economics and sociology ignores gender as an organizing force of economic activity.

Stewart Barr (2014) reviewing the social science literature on the green economy argues the focus on the individual consumer as the unit of measurement, and target of political attention, restricts our understanding of how environmentally-related social practices develop in association with wider economic contexts. Failing to make the connections between individuals, practices, and the economy means one is unable to see the ways individual practices are influenced by the economic system. Take household recycling for example. An individual's recycling practices are impacted by decisions made at the municipal and industry levels. Whether or not a person has curbside pick up, or must transport their recycling to a recycling center, depends more upon the price post-consumer recycled materials are getting in the marketplace than it does on individual's desire to recycle.

Riley Dunlap and Robert Brulle (2015) describe the over-emphasis of individual level analysis among policy experts and economists and the sidelining of the sociological understanding that individual practices are socially informed and constrained by social structures. In other words, everyday activities, including those related to the economy or the environment, reflect existing social structures, norms and values. Dunlap and Brulle remind us of environmental sociology's contribution linking social structures to environmental issues.

However, sociological critiques of the green economy rarely connect gender, as an organizing category for virtually all economic activity, with the green economy. For example, Barr (2014) identifies the limitation in policy formulation and most economic theory, i.e. that the focus on the individual obscures 1) social systems that constrict individual choices and 2) systemic change necessary to transform the economy. He acknowledges that, "behaviours and the practices on which they are based…are grounded in the complex relationships between underlying norms, infrastructures and technologies" (2014:239). However, he fails to observe that the norms for who engages in what environmental practices, infrastructures and technologies are gendered. For example, the majority of consumption decisions are made by women (Wang 2016; Judkins and Presser 2008; Casey and Martens 2007; Reed and Mitchell 2003; Schultz 1993), and green behavioral changes often mean more work for women (Kennedy and Dzialo 2015; European Institute for Gender Equality 2012; Tindall, Davies, and Mauboules 2003; Zelezny, Chua, and Aldrich 2000).

Humans, like ecosystems, need rejuvenation and repair. People cannot serve as an unlimited source of resources or limitless sinks for environmental harms. Dunlap and Brulle write, "The stress on individual behavior and change thus leaves the institutions that structure everyday life and individual practices unexamined…As such, it serves to maintain the status quo" (2015:11). Yet, there is little discussion of gender in their edited volume *Climate Change and Society: Sociological Perspectives* with the exception of the discussion of women as disproportionate victims of climate change. Their critique misses the link between women's daily lives (i.e. individual level environmental actions) and social structures of domination and oppression (i.e., patriarchy and capitalism) carried over to the green economy.

Gender-Blind Green Economy Literature

A wider search for scholarly articles on gender and the green economy garners few results. Only a handful of scholarly research articles specifically address the green economy and gender (see Cohen 2017; Brown 2016; Namukombo 2016; Sessions 1997). Most of these studies are focused on the developing world. Interestingly, there is a lack of research on gender and the green economy in industrialized economies.

The fields of environmental and ecological economics virtually ignore the role of gender in organizing economic activity. In the past 10 years the *Review of Environmental Economics and Policy*, a top ranked academic journal in environmental economics, published 86 articles on the green economy and 32 on green jobs. None of these studies mention gender or women. Over this same time period there were 45 articles published in *Ecological Economics* that mention the green economy and 18 discuss green jobs. Only 4 of those articles mention gender or women.

The limited discussion of gender in the green economy is striking given the fact that for decades feminist and gender scholars have documented and theorized the salience of gender as an organizing category for virtually all economic activity. This research shows, among other things, that the division between paid and unpaid labor is gendered, there is a persistent gender segregation of occupations, and that pay, promotion, and workplace expectations vary by gender (Dill, Price-Glynn, and Rakovski 2016; Budig and Hodges 2010; Blair-Loy 2003; Budig and England 2001; Coltrane 2000; Acker 1990; Daniels 1987). Given the large body of research on the gendered nature of work, in general, inquiry into the possible gendered nature of the green economy seems apropos, even obvious.

If the mainstream economic and sociological literature on the green economy rarely examine the role of gender, this is not unique to these fields. Most studies by governments and NGOs on the green economy do not mention gender (for example ILO 2011). An exception is the 2008 United Nations Environment Programme report titled "Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World" which does acknowledge a gender gap in green jobs, with more jobs for men than women. This report calls for a more data on green economy that specifically measures gender. This dissertation attempts to fill that gap.

Green Economy Research from the Standpoint of Women

Research that begins from the standpoint of women is more likely to link individual level with social structural processes. For example, Donald Brown and Gordon McGranahan's (2016) research focused on bring the informal economy, where women predominate, into the conversation about a transition to a green economy. This research, that begins from the standpoint of women's economic lives, widens the formulation of the green economy to include environmental work beyond pro-business, pro-growth ideas of green jobs as only waged, productive, economic activity reflected in the GDP. Justina Namukombo (2016) describes how the challenges women face - including access to science and technology infrastructures, low levels of education, lack skills, financial resource constraints, and few opportunities in agriculture and management of wastes – impacts women's participation in Zambia's transition to a green economy. This study moves beyond a focus on the individual economic actor to social structures and institutions, like occupation gender segregation and the education system, that constrain individuals, in this case women's, everyday choices.

These gender-focused studies help us see how limited the formulation of the green economy is and the social structures that constrain environmental actions and choices. However, there are questions unanswered or under-answered: What is the distribution of green jobs by gender? If there is not gender parity in green jobs, why not? What about the similarity between the use-and-abuse of natural resources and ecosystem services and women reproductive labor? What theories help explain this phenomenon?

Twenty years ago, ecofeminist scholar Mary Mellor noted, "the green challenge to the market economy has not focused upon the gendered nature of market economics and therefore is in danger of transporting patriarchal assumptions into green alternatives (1997:134)." Has this transportation of assumptions (and practices) she predicted occurred? Has the green challenge to economy addressed the gendered nature of the market economy?

Most studies on the challenges and opportunities of integrating women into the transition to a green economy does not take into account the unjust, gendered nature of market economics writ large (Brown 2016; Namukombo 2016: Hegewisch, Hayes, Bui and Zhang 2013; Tabish 2013; Walsh, Bivens and Pollack 2011). This includes assigning task, jobs and responsibilities based on gender, devaluing those assigned to women, and policy efforts that support men's work and hinder women's workforce participation. If Mary Mellor is correct, the same gender segregation in labor markets rampant under capitalist patriarchy persists in the green economy. A persistent form of the division of labor by gender, both paid and unpaid, is the organization of care work. In the final sections of this chapter, I will build the argument that a gendered division of environmental care work has spilled over into the green economy.

CARE WORK

Care work is reproductive work. It is work done to maintain and sustain the life, health, and happiness of oneself or others, including family members, friends, neighbors, and even strangers. It is work that is done by all people, but most cultures assign women more of this work than men (Folbre 2006; Zimmerman, Litt and Bose 2006; Cancian and Oliker 2000). This gendered division of care work, of labor in general, has biological underpinnings (women, biologically, can bear children and breastfeed) but varies culturally and historically (Cancian and Oliker 2000). Care work is, therefore, a *social* organization of labor. The social organization of care work is not only gendered, it is raced and classed and reflects larger social relations and social structures that use race, class, and gender to justify ways of organizing the division of labor (Zimmerman et al 2006; Acker 2005; Glenn 1992). For example, care work is intimately connected to globalization; laborers in countries of the global south filling gaps in care in developed countries, their allocation of labor creating gaps in developing countries, reinforcing and perpetuating inequality along gender, socioeconomic, and racial-ethnic lines (Zimmerman et al 2006).

Care work can be paid or unpaid. It is done by strangers, acquaintances, or loved ones in many arenas of social life: the home, the work place, the community. Unpaid care work ranges from taking care of the needs of those who cannot care for themselves, to self care (Folbre 2006), to empathic listening on the job (Martin 2003; Acker 1990), to creating what has been argued as the most basic building blocks of society – the family (DeVault 1991). Occupations that include care work earn less compared with workers with similar skills and education in non–care work occupations (Duffy 2011; England 2005; England, Budig, and Folbre 2002). Using panel data from the National Longitudinal Survey of Youth of 17 to 35-year-old workers, Paula England,

Michelle Budig and Nancy Folbre (2002) analyze wages in occupations involving care (teaching, counseling, providing health services, or supervising children). They find that care work pays less than other occupations even after controlling for education, experience, or gender.

Those who do care work are not just penalized with lower hourly wages. Women who take time out of paid work to care for children are thanked with a reduction in lifetime earnings, a.k.a. the "motherhood penalty", at the rate of about 5% per child (Budig and England 2001). All women do not experience the motherhood penalty equally, as care work reflects social organization of work based not only on gender, but also race and class. For example, Michelle Budig and Melissa Hodges (2010) show how the motherhood penalty, and the mechanisms creating the penalty, vary among mothers earning low, middle, or high wages with women earning lower-wages experiencing a great decline in income per child than mothers earning middle- or higher-wages.

There is not a similar effect for fathers. In fact, Shelly Correll, Stephen Benard and In Paik (2007) conducted an experiment where job applications of equally qualified candidates, of the same gender but who differed on parental status, were rated. They found that mothers were rated significantly less competent and committed, held to harsher performance and punctuality standards, offered a lower starting salary, seen as less promotable, and were less likely to be recommended for management than women without children. Conversely, men were not penalized for, and sometimes benefited from, being a parent.

If care work is, as I argue, crucial work done to maintain and sustain life, health and happiness of others and has widespread social benefits, why is it devalued? There are multiple answers to this question. Let's start with looking at who does care work.

Care Work is Feminized

Both men and women do care work. However, women do the majority of unpaid care work for children, people with disabilities, and the elderly (Herd and Meyer 2002; Cancian and Oliker 2000; Hochschild 1989). Of all forms of unpaid care work, the most time-intensive example of is parenting (England 2005). In heterosexual married couples, women spend about twice as much time as men childrearing (Sayer et al. 2004). Pamela Herd and Madonna Meyer (2002) examined decades of feminist research on paid labor and citizenship to lay out the theoretical groundwork for incorporating unpaid care work into standard definitions of civic engagement. They find that:

> Care work is often the most satisfying work that many women and some men do during their life times. But there is no question that it usurps care providers' time, money, health, and other resources. (P. 669)

Women pay a price for unpaid care work emotionally, physically and financially. Time spent on taking care of young children, elderly, disabled, or sick loved ones reduces the amount of time women spend in the paid workforce (Budig, Misra and Boeckmann 2012). This has economic consequences for women in terms of salary, job tenure, seniority, and promotion. Extra time spent on unpaid care work reduces women's access to social insurance benefits like pensions, retirements plans and social security that are based on the amount of time spent in the workforce (Daly and Rake 2003). Finally, unpaid care work is also something women are expected to do on the job, in any job, for colleagues and co-workers. This is work that is not part of the job description, i.e. empathic listening, but part of gendered expectations for women generally and in the workplace specifically (Martin 2003; Acker 1990).

Care Work is Devalued

Care work is devalued, plain and simply, because women do it. The persistent gender gap in pay and occupational gender segregation provides convincing evidence that work done by women is valued less than work done by men. Paula England has studied the gender pay gap for decades. She explains it thusly:

> Research on comparable worth shows that predominantly female jobs pay less than male jobs, after adjusting for measurable differences in educational requirements, skill levels, and working conditions (England 1992; Kilbourne et al. 1994; Sorensen 1994; Steinberg 2001; Steinberg et al. 1986). These penalties are experienced by both men and women in predominantly female occupations, but because women are disproportionately represented in these occupations, these penalties contribute to the gender gap in pay…Care work pays less than we would otherwise expect because of its association with women" (2005: 382, 387)

Several scholars propose a devaluation framework to explain relatively low pay of female occupations, including those involving care (England 2005; West and Zimmerman 1987). England (2005) writes:

> Cultural ideas deprecate women and thus, by cognitive association, devalue work typically done by women. This association leads to cognitive errors in which decision makers under estimate the contribution of female jobs to organizational goals, including profits. It may also lead to normative beliefs that those doing male jobs deserve higher pay. (2005: 382) The devaluation perspective can be applied to race as well as to gender, with lower paid care work done by women of color and immigrants (Misra 2003; Hondagneu-Sotelo 2001; Romero 1992; Glenn 1992).

Others argue that care work is feminized and devalued because of two gendered assumptions: 1) that caregiving comes naturally to women, and 2) that work is something you are paid to do (Coltrane and Galt 2000; Cancian and Oliker 2000; Daniels 1987). These assumptions help to flesh out the devaluation framework discussed above.

Arlene Kaplan Daniels (1987) argues that care work is devalued because of the assumption that work is something you are paid to do. This contributes to the devaluation of women's work because it casts activities done outside of the paid economy as not "work". This

means care work that is unpaid is not considered work even if it is the exact same activity (i.e. cooking, cleaning, child and elder care) done for pay and considered work in the public sphere. The phenomenon of unpaid emotion work women that are expected to do while on the job, like empathic listening and emotional support, is similar to the paid work of a therapist. The ideology of separate spheres, with a competitive, individualist, profit focused public sphere where male breadwinners earn wages to support unpaid female care work in a nurturing, home-based private sphere, provides an ideological framework that maintains this commonsense assumption about which types of work are paid for and which types of work are not (Coltrane and Galt 2000; Cancian and Oliker 2000). The ideology of separate spheres and the commonsense assumption about paid and unpaid work contributes to the feminization and devaluation of care work.

The second "commonsense assumption" about caregiving that feminizes and devalues this work is the assumption that caregiving comes naturally to women (Cancian and Oliker 2000). This justifies low wages and scant training for some paid caregivers because, as the commonsense assumption goes, why train a woman to do care work if it comes naturally to her? This assumption places the burden of unpaid care work on women and pushes women towards low-status, low-wage care work jobs (Cancian and Oliker 2000).

Feminist and gender scholars point out the gendered character of these assumptions. Work is work no matter if it is paid or unpaid, and there is no biological reason why women are better caregivers than men. Changing a diaper requires hands, not a certain set of genitalia. Rather, feminist scholars find that these commonsense assumptions provide ideological support for a gendered organization of work that is nonsensical (i.e., the devaluation of socially critical care work) and unjust (i.e., women are both penalized for and patronized into doing it). That feminized, devalued care work is exploitative to women, and the benefits are appropriated (i.e.,

the value of care work, or not having to do it, goes towards people who command a larger share of wages, wealth, power in virtually all social institutions) should not be surprising when one considers that the current system of organizing labor is best described as capitalist patriarchy.

The true value of care work is often reaped not by those who do the work, but by society at large. The work parents do to raise children to be productive members of society is not remunerated. Instead "employers and taxpayers are able to claim a share of the future returns on the human capital created" (Folbre 2008). Eldercare done in the home reduces government expenditure on nursing home care via Medicaid, but those taking are of elderly parents, for example, are rewarded (financially) for their cost-savings to the taxpayer (Wolf 1999).

HIDDEN ENVIRONMENTAL LABOR

Quantitative and qualitative studies done under the rubric of "pro-environmental behavior" point to a large swath of environmental work that is not considered in mainstream accounts of the green economy. Pro-environmental behaviors include actions taken on the household level like, "using environmentally friendly cleaning products, hanging laundry to dry, growing food, turning down the thermostat, taking shorter showers, and using public transit to avoid driving" (Kennedy and Dzialo 2015:924). Many of these environmental behaviors, like feeding the family or doing housework in an eco-friendly way, would fall under the category of household work or care work.

Research indicates a gender difference in pro-environmental behaviors with women doing more in the household (Kennedy and Dzialo 2015; European Institute for Gender Equality 2012; Hunter, Hatch and Johnson 2004; Tindall, Davies, and Mauboules 2003; Zelezny, Chua, and Aldrich 2000). Examining cross-national data in the International Social Survey, Hunter,

Hatch and Johnson (2004) tease out gender differences in public vs. private environmental behaviors in 22 countries. This research indicates women engage in more private environmental behaviors like recycling, buying organic, or driving less in 14 of the 22 countries. Gender differences in public environmental behaviors like belonging to an environmental organization, signing a petition about an environmental issue, or taking part in a protest of demonstration are not statistically significant in 16 of the 22 countries. In the 6 anomalous countries, women engaged in more pubic actions in three (Australia, the Netherlands, and New Zealand) and men did more in the remaining three (Spain, Poland and Bulgaria).

That there is a difference in environmental attitudes and behaviors between men and women is not a new finding. What's new about the research on environmental labor is that the majority of individual environmental work is based in the household, and responsibility for household environmental work is feminized.

Green Household Labor and Consumption

A review of the recent literature on gender and pro-environmental behaviors point out pro-environmental behaviors are concentrated in the areas of household work, what Kennedy and Dzialo (2015) call "greening the household." The most common green household activities are cooking, cleaning, shopping and laundry. That women do more household labor than men is well established (see Davis and Greenstein 2013; Treas and Drobnič 2010; Coltrane 2000; DeVault 1991; Hochschild 1989). Based on the large datasets like the National Survey of Families and Households and the American Time Use and smaller time use surveys, interviews and household observation, researchers have found women do about twice the amount of

household work as men (Bianchi, Sayer, Milkie and Robinson 2012). Women are responsible for the majority of household consumption decisions (see Casey and Martens 2007).

Brooke Judkins and Lois Presser (2008) study of families that adopted eco-friendly behaviors in the home found gendered patterns with women generally doing more eco-friendly domestic labor than their husbands. They describe a wide range of eco-friendly efforts:

> …using fewer packaged or processed foods, reducing dependence on cars, using fewer disposable products and reusing items like plastic bags, limiting children's use of energy-consumptive entertainment, shopping for products produced in more environmentally-sensitive ways, and drying clothes outside or on an indoor rack rather than in an electric clothes dryer…practicing greater sustainability means doing things such as growing one's own food and/or buying local, organic and bulk foods; using whole foods and cooking more "from scratch"; installing compact fluorescent light bulbs, water flow reduction devices, and energy-efficient appliances; purchasing recycled products and items with minimal packaging; using biodegradable cleaners; hanging laundry outside; and walking, biking, carpooling, and trip-combining (Gershon & Stern, 1997; Newman, 2003). (P.924)

Some of these efforts are clearly work. Hanging laundry, biking to work, growing food, cooking from scratch all take time and effort. Other examples of eco-friendly behaviors Judkins and Presser (2008) present may not fit commonplace assumptions of work. For some people shopping is fun, so making ethical or green consumption choices is part of a fun process. For others, its time and energy spent researching products that might be more enjoyably spent doing something else.

The Feminization of Pro-Environmental Work

A handful of studies have explicitly addressed the ways pro-environmental behaviors are feminized or see as women's work. Lois Bryson, Kathleen McPhillips and Kathryn Robinson (2001) described how concern over lead contamination from local resource extraction translated into a public education campaign encouraging extensive household cleaning regimes rather than

stricter state regulation, fines for offending actors, or even deployment of green technology. Rather than the responsibility of the state, the mining corporation profiting from the resource extraction and responsible for the lead contamination, or those that worked for and were paid by the mine (the mostly male employees), the environmental burden was placed on women to literally clean up the mess.

Kate Cairns, Josée Johnston and Norah MacKendrick (2013) revealed the gendered-nature of ethical food discourses that implores mothers to be "individually responsible for producing a healthy child and a healthy planet" and puts more (ethical consumption) work on women's plate (98). Based on 10 focus groups and 25 in-depth interviews, this research found mothers felt responsible for defending the purity of their babies, vigilantly deflecting toxic substances from their tiny bodies, and ensuring everything they and their babies eat is produced organically.

Norah MacKendrick (2014) studied the time-consuming consumption practices mothers engaged in to reduce their children's exposure to harmful industrial chemicals. In in-depth interviews with 25 mothers, MacKendrick found that women report feeling personally responsible for their children's exposure to chemicals in the environment even though exposure to chemicals are a societal level problem better laid at the feet of chemical producers and government regulators. Mothers tried to reduce their children's exposure to toxic chemicals by researching toxic chemicals, avoiding them in products, storing food in non-plastic containers, letting new furniture "off-gas" before bringing them indoors, or mopping floors to remove potentially toxic dust. The mothers in this study saw their proactive consumption practices, research, and efforts as a form of environmental agency and not necessarily as extra work.

However, feminist scholars take a different position, arguing that this is work. Shelly Koch (2009) in her institutional ethnography of grocery shopping writes:

> Marxists and socialist feminist in the 1970s and 1980s agreed that grocery shopping and other unpaid activities like cooking, cleaning, and even volunteering should be considered work (Secombe 1973; Oakley 1976; Hartmann 1979; Molyneux 1979). They defined this activity as reproductive labor, non-wage work that was outside the market but necessary to preproduce the next generation of people. (P.1)

I place pro-environmental behaviors like green household labor and consumption practices within this conceptualization of work – reproductive labor, unpaid, outside of the market but necessary to produce health people and a health planet. All sound like green reproductive work to me.

Scholars are now noticing the 'feminization of environmental responsibility', especially as associated with ethical consumption (Wang 2016; Judkins and Presser 2008; Reed and Mitchell 2003; Schultz 1993). Sumei Wang (2016) study of policies to encourage an eco-friendly lifestyle in Taiwan found these polices increased women's unpaid household work and exacerbated gender inequality. Taiwan's "Ten Regretless Measure of Energy Savings and Carbon Reduction" focused on household energy reductions. Wang argues the women she interviewed feel compelled to do more caregiving and housework than their male counterparts. Because women do the major of laundry and cooking – too major sources of household energy usage – and spend more time in the home, the burden implementing the "Ten Regretless Measures" was placed on women. This means women now had to monitor energy usage daily, flip off lights, unplug appliances after use, and use less air conditioning when no one else was home. Wang concludes that "women under this eco-stress suffer from double domination, an unjust but naturalized domination based on the asymmetric power relations between men and women, the policy makers and the actual practitioners" (93).

In summary, studies indicate that women are doing considerable environmental work around the household. This includes more laborious forms of food preparation, to washing diapers rather than use disposables, to biking and carpooling, to researching the chemicals listed in cleaning products, or better yet making your own. Last Fall I collected wild apples to make apple cider vinegar to use for cleaning and cooking. This a multi-week process and definitely more work than picking up a bottle of cleaner at the store. To be fair, my (male) partner and I picked the apples together and he does more of the day-to-day monitoring and feeding of the vinegar. The point is not that men do not do environmental work. They most certainly do. Chenyang Xiao and Aaron M. McCright (2014) survey research indicates more men make an effort to sort recycling than women, that women and men report trying to buy fruits and vegetables grown without pesticides or chemicals at similar rates (30 percent of men, 37 percent of women). The types of household environmental work women tend to do takes more time. For example, Clancy and Roehr (2003) found:

> Men are mainly responsible for technical decisions and investments in thermal insulations of homes, boilers, and hot water installations. In contrast to this, women have the responsibility for energy conservation by reducing their use of electric appliances, such as washing machines and dishwashers, and encouraging the rest of the family to do likewise. (P.46)

Reducing the use of electric appliances means more handwashing of dishes and hanging of clothes out to dry and is a daily task. My point is household environmental work, is work. The fact remains, as the previously cited research indicates, that women end up doing more unpaid, pro-environmental work.

COMBINING THEORIES OF CARE, ANIMALS, AND THE ENVIRONMENT

Can the theories of care work, and the face-to-face relationship it entails, be extended to strangers, non-humans, or the natural environment? Can it be argued that the work that goes into

caring for the environment without a face-to-face component is care work? Some would argue that we have relationships with "all our relations" - humans and non-humans – whether we acknowledge this our not (LaDuke 1999). Cox (2010) in a review of research on ethically and environmental responsible food production and consumption argues that this body of scholarship illustrates that "caring can go beyond intimate relations and include unknown and non-human others as well as the natural environment" (119). Cox cites her own research on Alternative Food Networks and the work of others (see Stock 2007) to highlight the caring relationship that develop between producers and consumers, the environment, and present and future generations who will, like us, depend on the natural environment. I agree with both Cox (2010) and LaDuke (1999) on this. Care work is fundamentally relational. We can have caring relationships with unknown people (McEwan and Goodman 2010), non-humans (Habermans 2010, Curry 2002), and the natural environment (Puig de la Bellacasa 2010; Wells and Gradwell. 2001).

Jane Curry (2002) work helps link feminist agricultural theorists and ideas about the ethics of care to extend the understanding of care work to include animals. Curry employs the term "environmental care" and "environmental care/work" to describe the relationship of care between farmers and the hogs they raise. She argues that dominant assumption of the autonomous view of humans as separate from nature has made it difficult to integrate the lived experiences of relational care in animal husbandry. Similarly, Hans Habermans (2010) describes relationships of care on the Dutch farm where he was raised in the 1950s-1960s between the family providing care and animals providing an economic / natural resource. He even extends the relationship of care to include caring acts between animals. He describes how cows show concern for each other when calving and create hierarchies each spring that the farm family abides by. Sometimes this means keeping the cow at the top of the hierarchy back in the barn, so

the others could have a shot at being first to the food trough. He writes, "Our care would not have been good if it had not been attuned to this mutual care" (150). These studies demonstrate how care work is more than caring for people. Care work is also caring for animals, even ones you are carefully raising to kill and make money off of. These farm animals are natural resource that you can care for and benefit from, just like the non-animal environment.

Annemarie Mol, Ingunn Moser and Jeannette Pols's (2010) research describes practices related to care in raising farm animals, health care, and care of elders and disabled. Their theory of care is delinked from a conversation about ethics or values because they find these to be relative to the situation of care, constantly negotiated and tinkered with. Instead, Mol, Moser, and Pols (2010) focus on practices and an ethos of care, finding "the daily activities of farmers were rarely topicalized as 'care' at all…we are struck by the similarities between farming and other care practices" (9). Caring for farm animals is tied to killing them. They wrestle with the question "Does killing oppose care, or may it be done in caring ways" (15). People, like animals, get sick, stressed, and die in spite of our best efforts to care. It's inevitable. Ultimately, they argue for an ethos of care that acknowledges that there is no such thing as good care work that produces an eternally positive outcome. An ethic of care is not necessarily about values:

> Unlike medical ethics, the ethics of care never sought to answer what is good, let along to do so from the outside…In the ethics of care it was stressed that in practice, principles are rarely productive. Instead local solutions to specific problems need to be worked out. They may involved 'justice' but other norms (fairness, kindness, compassion, generosity) may be equally or more, important – and not in a foundational way, but as orientations among others…In care practices, after all, it is taken as inevitable that different 'goods', reflecting not only different values but also involving different ways of ordering reality, have to be dealt with together…In care, then, 'qualification' does not precede practices, but forms a part of them. The good is not something to pass a judgment on, in general terms and from the outside, but something to do, in practice as care goes on. (P.13)

Beyond an ethic of good and bad, they argue for an ethos of "try again, try something a bit different, be attentive" and a practice of "persistent tinkering" best describes care work (14).

This work helps illustrate how care work can be conceptualized is beyond caring for people, and that the practice of care is more important than the species of the giver or receiver.

Other scholars have extended the notion of caring work towards non-animal nature. María Puig de la Bellacasa (2010) found a coming together of biopolitics and naturecultures ethics and feminist care ethics in the permaculture farming movement. She suggests permaculture in theory and practice, "puts caring at the heart of its search of alternatives for hopeful flourishing for all beings" (171). Betty Wells and Shelly Gradwell (2001) research based on interviews with Community Supported Agriculture growers in Iowa, the majority of whom were women, illustrates how practices of care historically associated with women informed how growers related to and interacted with the land. They found these farm management practices akin to care work based on the growers' concern for community, nature, land, water, soil, and other resources and their community-minded motivation to provide safe and nutritious food, education, and build relationships with other growers, shareholder-members, and the land.

This body of work builds the case for extending theories of care to include care practices and ethos of care directed towards non-humans and the natural environment. I add that it is important to examine environmental care work as a social organization of environmental work based on gender. Mapping the similarities and differences between traditional care work and environmental care work is necessary to ensure inequality based on a gendered organization of paid and unpaid, valued and devalued, feminized or masculinized work is not carried over to environmental work or the green economy.

WHAT IS TO COME

The phenomenon this dissertation seeks to understand is the gendered nature of the environmental work in the green economy, paid and unpaid. I begin from the standpoint of women to explore the degree to which gender inequality is organizing the green economy in the U.S. My core argument is old patterns of gender inequality are being unreflexively carried over to the green economy. A key mechanism reproducing gender inequality in the green economy is a privileging of work traditionally done by men and a marginalization and devaluation of environmental care work that is more often done my women.

Each data chapter provides evidence for an element of this core argument, driven by the following research questions. First, are jobs we think of as green disproportionately done by men? In Chapter 2 I address this question by examining Bureau of Labor Statistics data on the green economy by industry and Department of Labor data on gender composition by industry. I critique the current conceptualization of green economic activity as operating from the standpoint of men, hiding a great deal of sustainable work that is primarily done by women. Second, to what extent does U.S. policy to grow the green economy and create green jobs employ gendered biases in the allocation of resources? In Chapter 3 I examine U.S. policies designed to grow the green economy and create green jobs focusing on discussions at the federal level and training programs targeting women. Third, are there gendered biases in the implementation of federal sustainability programs on the ground? To explore this, I observed the organization and implementation of a program to foster green economic development in the "Green Impact Zone" an urban area in the Midwest. I discuss this case study and focus in on the way sustainable green jobs policy is understood and implemented in the Zone in Chapter 4. Finally, in the last chapter I return to gendered environmental work centered in the household

and reflect on the similarities and differences between this environmental work and care work. I describe my definition of environmental care work. A detailed discussion of my methodology is included in the Methods Appendix.

There are two concepts discussed in this Introduction that are key to this research: the green economy and environmental care work. I have argued mainstream conceptualizations of the green economy revolve around products and services that reduce environment impact of the production process or repair existing damage. The focus is on production, not reproductive work which repairs, rejuvenates or restores the environment. The mainstream conceptualizations of the green economy are developed from the standpoint of privileged men—they downplay the importance of environmental care work. I define environmental care work as reproductive work that sustains and maintains the planet and all living here. It is work that occurs within relationships of care that support mutual well-being for humans and non-human nature.

Chapter 2: The Numbers

In 2007 Van Jones, soon-to-be Special Advisor for Green Jobs, Enterprise and Innovation for the Obama Administration, said in an interview in Green American Magazine:

> It's important to recognize that ensuring an economic, social, and political stability in the US during this transition to a cleaner economy is critical for the whole world. There has to be a job strategy for this transition. We will have a right-wing backlash against this transition like you will not believe. When energy prices start going up and hybrid solar Hollywood talk gets louder and louder while people aren't able to make ends meet, it will be very easy for the Rush Limbaughs to forge a backlash alliance of the polluters and the poor to derail everything we're talking about. So, ensuring green jobs for all is not just charity. It's the right thing to do morally, and it's the smart thing to do strategically.

Jones, a long time social justice activist and author of The Green Collar Economy: How One Solution Can Fix Our Two Biggest Problems (2008), sparked a national conversation about green job creation to abate high unemployment, especially among individuals and communities under-represented in the workforce. He argued that we could both address environmental challenges and unemployment through green initiatives.

By 2011, the Bureau of Labor Statistics estimated there were 3,401,279 jobs in the green economy. Green jobs accounted for 2.3 percent of private sector jobs and 4.2 percent of public sector jobs (BLS 2013). These green jobs are found in businesses that primarily produce goods and provide services that benefit the environment or conserve natural resources. Who fills these green jobs?

The White House Task Force on the Middle Class issued a staff report on green jobs in 2009 that offered a definition of green jobs that echoed Jones's call for good, green jobs for all:

- Green jobs involve some task associated with improving the environment, including reducing carbon emissions and creating and/or using energy more efficiently;
- Green jobs should be good jobs that provide a sustainable family wage, health and retirement benefits, and decent working conditions;

- Green jobs should be available to diverse workers from across the spectrum of race, gender, and ethnicity. (P.5)

Asserting that green jobs should pay adequate wages, provide decent working conditions, and be available to diverse potential workers, the Obama Administration extended the meaning of green jobs to include a degree of social sustainability, including gender inclusivity.

Under the Obama Administration the federal government took action to foster the green economy and create green jobs. Of the $787 billion in federal funds allocated for the 2009 American Recovery and Reinvestment Act, $80 billion was set aside to stimulate a "green recovery" from the 2008 global economic downturn. These funds were to be used for investments in renewable energy, increasing manufacturing capacity for clean energy technology, stimulating new vehicle and fuel technologies, revamping the country's electric grid, and creating green jobs (The White House 2010). Three billion dollars in federal money was designated for fostering green job creation and innovation. Between 2006-2008 more than $12.6 billion in additional investments from venture capital flowed in to the green economy (Pew Charitable Trusts 2009). This injection of private investments helped multiply state and local green policy initiatives (Harper-Anderson 2012). The new green jobs were expected in renewable energy manufacturing and infrastructure, biofuels, electric grid modernization, and energy efficiency retrofits. Was this really planning green jobs for all?

In this chapter I analyze federal labor force data to identify the gendered composition of jobs and industries designated as "green" by the U.S. Department of Labor (DOL). I ask where are the green jobs? Are green jobs gendered? What are the missing opportunities, or "what could be" in a gender equitable green economy? To answer these questions, I integrate two datasets: Bureau of Labor Statistics (BLS) data on the green economy by industry and Department of Labor data on gender composition by industry. I compare my analysis with the

handful of recent studies that examine the green economy by gender. I add to this small body of national level research on green jobs a feminist explanation and an accounting of women's unpaid environmental work. I argue that the gendered distribution of environmental work evident in federal level data on the green economy operates in the same ways as the gendered distribution of labor has always worked: with high paying, good green jobs for men and low-wage or unpaid environmental work for women. This chapter contributes to the limited research on the gender division of labor within the green economy and advances knowledge about gender segregation and integration of labor markets, gender equality in employment, and gender opportunities in the growing green sector of the economy.

WHAT DO WE KNOW ABOUT THE GENDER COMPOSITION OF THE GREEN ECONOMY?

To date, there are two large-scale studies on the gender composition of the green economy. The largest was compiled by the Institute for Women's Policy Research and indicates gender disparity in the US green economy. Hegewisch, Hayes, Bui and Zhang (2013) combined data from the Brookings-Battelle Clean Economy database and the BLS Green Goods and Services survey with demographic data by industry from the U.S. Census Bureau's American Community Survey to estimate the distribution of green jobs by gender. They found women hold 48 percent of all jobs, but only 29.5 percent of green jobs. That's only three out of ten green jobs held by women.

Walsh, Bivens, and Pollack (2011) report for the Economic Policy Institute and the union-backed BlueGreen Alliance indicated slightly less women in the green economy than the Institute for Women's Policy Research report. They estimated that 24 percent of the green jobs created by the 2008 American Recovery and Reinvestment Act were held by women. This

report inputs data on federal investment into a green jobs model based on a combination of industrial data on input-output relationships, household-level demographic data, and labor market variables to estimate green job outcomes resulting from changes in industry due green investment. The demographic data, including gender, comes from the 2005-2007 Current Population Survey (CPS). This provides the percentage of each industry's employment by demographic categories, which they compared with the green jobs model to obtain an estimate for the gender composition of green jobs.

These studies combine datasets to estimate the gender composition of green jobs because data on green jobs that also captures the demographic data does not exist. Individual industry groups have put together estimates on women's employment in the green economy within their industry. Women of Wind Energy estimates 20 to 25 percent of the wind power jobs are held by women (Tabish 2013). The Solar Foundation estimates women comprise nearly 20 percent in the solar industry (Tabish 2013).

These studies and reports from industry sectors help build a body of evidence for a gender disparity in the green economy. However, they are geared towards policy-makers. They do not attempt to explain why women are under-represented in the green economy. To answer this question, I wanted to run the numbers myself to examine closely the gender distribution of green jobs. This close examination allows me to look for nuances informed by sociological scholarship on gender, work, and the environment. And, I am able to test if the results of previous studies are replicated using similar methods, but different datasets.

GREEN JOBS FOR ALL?

To date the largest national survey of the U.S. green economy is the "Green Goods and Services Survey" conducted by the Bureau of Labor Statistics in 2008 and 2010. Data from this time period provides a snapshot of the green economy just before and after the injection of federal funds and policy efforts to grow the green economy. By March 2013 the Bureau of Labor Statistics ceased all collection of data on green jobs. The Green Goods and Services survey was shuttered due to wide spread federal spending cuts required by the Balanced Budget and Emergency Deficit Control Act, known at the time as "sequestration" (U.S. Department of Labor N.d).

The Green Goods and Services (GGS) survey uses data from the Quarterly Census of Employment and Wages program. This dataset includes nearly all businesses with employees covered by state or federal unemployment insurance, or 95.7 percent of employment in the U.S. The GGS survey captured information on 120,000 business and government establishments in 325 industries identified as producing green goods or providing green services. The standard error of the estimated rate of GGS employment is approximately 0.03 percent (U.S. Department of Labor 2013b).

What Types of Jobs are Considered "Green"?

The GGS survey conceptualized green enterprises as those, "that produce green goods and services…and establishments that use environmentally friendly production processes and practices" (U.S. Department of Labor 2010). Companies surveyed were asked to report if they produced green goods and services, and the percentage of their revenue or employment associated with these green goods and services. Green goods and services counted in the survey

are those that: 1) produce energy from renewable sources, 2) improve energy efficiency, 3) reduce or remove pollution including recycling, reuse, and greenhouse gas reduction, 4) conserve natural resources, and 5) activities related to environmental compliance, education, training or public outreach (see Table 1).

Table 1. Goods and Services with Green Attributes

1) Energy from Renewable Sources	Electricity, heat, or fuel generated from renewable sources.	*These energy sources include wind, biomass, geothermal, solar, ocean, hydropower, and landfill gas and municipal solid waste.*
2) Energy Efficiency	Products and services that improve energy efficiency.	*Included in this group are energy-efficient equipment, appliances, buildings, and vehicles, as well as products and services that improve the energy efficiency of buildings and the efficiency of energy storage and distribution, such as Smart Grid technologies.*
3) Pollution Reduction and Removal	Includes greenhouse gas reduction, recycling services, and reuse.	*These are products and services that:* - *Reduce or eliminate the creation or release of pollutants or toxic compounds or remove pollutants or hazardous waste from the environment.* - *Reduce greenhouse gas emissions through methods other than renewable energy generation and energy efficiency, such as electricity generated from nuclear sources.* - *Reduce or eliminate the creation of waste materials; collect, reuse, remanufacture, recycle, or compost waste materials or wastewater.*
4) Natural Resources Conservation	Products and services that conserve soil, water, natural habitats or wildlife.	*Included in this group are products and services related to organic agriculture and sustainable forestry; land management; soil, water, or wildlife conservation; and storm water management.*
5) Environmental Compliance, Education and Training, and Public Awareness		*These are products and services that:* - *Enforce environmental regulations.* - *Provide education and training related to green technologies and practices.* - *Increase public awareness of environmental issues.*

Source: U.S. Department of Labor, Bureau of Labor Statistics 2013a

Where Are the Green Jobs?

Based on the GGS conceptualization of green goods and services, 26 percent of all industry sectors, public and private, are considered green. In 2013, that translated to 3,401,279 million jobs. A little over half of GGS employment (56.5 percent or 1,923,251 green jobs) is found in establishments that *exclusively* produced green goods and services. The public sector – comprised of federal, state, and national jobs - is slightly greener than the private sector, with 4.2 percent of public sector green vs. 2.3 percent of the private sector. While a surprisingly large chunk of U.S. jobs is considered "green" – just over a quarter – in the GGS, close to 2 million of these green jobs are found in establishments where 100% of revenue comes from green goods and services.

Table 2 presents the industry sectors with green goods and services. In the U.S. green economy, the top five industry sectors are *utilities* (12.9 percent green), *construction* (8.9 percent green), *transportation and warehousing* (5.9 percent green), *professional, scientific, and technical services* (5.0 percent green), and *manufacturing* (4.3 percent green). Some of these top green industries may be deemed greener than they really are. For example, the 5.9% of the transportation industry considered green includes mass-transit that runs off fossil fuels. There is certainly a measurable reduction in greenhouse gas emission per-person for travel by commuter train or city buses vs. single-occupancy vehicles. But greener mass-transportation powered by fossil fuels is a green good or services that still produces pollution. Is that a comparable to a job in natural resources that is reducing global atmospheric greenhouse gas concentrations by sequestering carbon dioxide? A better measure of the greenness of an establishment or job may be the amount of pollution it produces.

Table 2. Industries with Green Goods and Services in the US, 2013

	Number of green jobs	% of industry green	Examples of green jobs
Utilities	71,129	12.9	Electric power generation (nuclear, hydroelectric, wind, biomass, geothermal, solar
Construction	487,709	8.9	Renewable energy construction, weatherizing, and retrofitting projects that reduce household energy consumption
Transportation and warehousing	238,755	5.9	Commuter rail systems and charter bus services
Professional, scientific, and technical services	381,981	5.0	Architectural and engineering services, management and technical consulting, research and development
Manufacturing	507,168	4.3	Textile, paper and glass production, wood products, soaps and cleaning compounds, rubber and plastics
Administrative and waste services	335,417	4.3	Travel and reservation services; waste collection, treatment, recovery, disposal and remediation
Government – federal, state, and local	886,080	4.2	Professional, scientific and technical, enforcement of environmental regulations, administration of environmental programs, transportation and warehousing
Management of companies and enterprises	69,310	3.6	Consulting firms
Natural resources and mining	64,689	3.4	Forestry, logging, farming, aquaculture
Other services, except public administration	56,257	1.3	Repair and maintenance (auto, electronic, commercial machinery, household); grants and giving services, advocacy, and professional organization
Trade	223,079	1.1	Wholesale and retail sales (recyclable material merchant, wholesalers and used merchandise stores)
Information	29,412	1.1	Publishing and broadcasting
Education and health services	26,123	0.1	Schools, universities, hospitals, medical offices and suppliers, pharmacies
Leisure and hospitality	23,696	0.2	Nature parks, botanical gardens, museums, zoos, historical sites
Financial services	475	0.0	Securities, commodity contracts, investments

Source: U.S. Department of Labor, Bureau of Labor 2013b, 2013c.

The strength of the GGS data is estimation of green jobs by industry. This allows comparison with other industry level labor statistics that include demographic data.

The Green Goods and Services survey does not include gender or other demographic measures tied to green jobs. This makes it difficult to ascertain who is doing these green jobs. However, the U.S. Department of Labor collects demographic data, including gender, for the entire US economy by industry sector. To estimate the distribution of green jobs by gender, I use data on gender by industry from the "Women in the Labor Force" dataset complied by the Bureau of Labor Statistics using the Current Population Survey (CPS). The CPS is a national sample survey of 60,000 households conducted U.S. Census Bureau, covering all 50 states and the District of Columbia with a 90-percent level of confidence of being within standard errors of the true figure in the population (U.S. Department of Labor 2013b).

Comparing the "Green Goods and Services" survey data with the "Women in the Labor Force" dataset, provides insight into the gender composition of the green economy. Both BLS datasets are publicly available. They are similar in scale and collection methods, providing ease in comparison. Because of the scant amount of existing data on the green economy, the best estimate of the gender composition of the U.S. green economy comes from comparing green economy data by industry with gender composition by industry (see Hegewisch, Hayes, Bui and Zhang 2013 and Walsh, Bivens, and Pollack 2011).

This comparison is based on the assumption that within an industry sector companies with green goods and services are demographically similar to companies that are not deemed green. This assumption may be false. It is possible that the gender composition of green companies differs significantly from non-green companies. However, there is no data available on green companies that includes demographic information about employees. At this time, it is not possible to determine if the gender composition of green companies differs from non-green companies.

It is also possible that within an industry there is a difference in the distribution of gender across jobs. For example, within environmental engineering firms the majority of engineering jobs may be filled by men and most administrative jobs filled by women. Due to a lack of available data, it is not possible to address this issue.

Are Officially Recognized Green Jobs Disproportionately Male?

Women comprise almost half (46.9 percent) of the U.S. workforce. While the public sector is almost twice as green as the private sector (4.2 percent vs 2.6 percent), the percentage of women in the public sector is slightly less than in the overall economy. Only 44.7 percent of public jobs held are by women (U.S. Department of Labor, Bureau of Labor 2013b, 2013c).

Table 3 presents the percentage of women employed in industry that are considered green in the GGS. The top five industry sectors based on the percentage of jobs held by women are education and health services (74.4 percent women), financial services (54.7 percent women), services other than public administration (52.0 percent women), leisure and hospitality (50.4 percent women,), and management of companies and enterprises (47.1 percent women). There is no overlap between the top five green industries (utilities, construction, transportation, professional services, and manufacturing) and the top five employers of women.

In fact, industries with the greatest representation of women have below average amounts of green goods and services. The education and health service industry is 74.4 percent women but counted as only 0.1 percent green. Financial services are 54.7 percent women, 0.0 percent green. Industries that provide services other than public administration are 52.0 percent women, but only 1.3 percent green. The leisure and hospitality industry is 50.4 percent women, 0.2 percent green.

Table 3. Percentage of Women Employed in Industries with Green Goods and Services in the US, 2013

	Number of green jobs	% of industry green	% of women employed in industry
Utilities	71,129	12.9	22.2
Construction	487,709	8.9	9.2
Transportation and warehousing	238,755	5.9	22.6
Professional, scientific, and technical services	381,981	5.0	41.0
Manufacturing	507,168	4.3	28.7 (overall) 53.4 (textiles, apparel, leather)
Administrative and waste services	335,417	4.3	44.9 (administrative) 18.8 (waste)
Government – federal, state, and local	886,080	4.2	44.7
Management of companies and enterprises	69,310	3.6	47.1
Natural resources and mining	64,689	3.4	24.7 (agriculture) 12.1 (mining)
Other services, except public administration	56,257	1.3	52.0
Trade	223,079	1.1	44.7
Information	29,412	1.1	40.2
Education and health services	26,123	0.1	74.4
Leisure and hospitality	23,696	0.2	50.4
Financial services	475	0.0	54.7

Source: U.S. Department of Labor, Bureau of Labor 2013b, 2013c.

The opposite is true for industries that are disproportionately male. The utilities sector is 12.9 percent green and 77.8 percent male. The construction industry is 8.9 percent green, 90.8 percent male. The transportation and warehousing sector is 5.9 percent green, 77.4 percent male. Professional, scientific, and technical services sector is 5.0 percent green and the closest to gender parity with 59 percent men. Manufacturing is 4.3 percent green 71.3 percent men. If manufacturing jobs in textiles, apparel and leather are disaggregated, it is the one-and-only

example of an above average greenness and a slight majority of jobs in the industry held by women (53.4 percent).

Out of the nine industry sectors with above average green goods and services, only three employ women and almost the same rate as men. Waste services industry is 4.3 percent green with 55.1 percent of administrative jobs but 81.2 percent waste jobs held by men. Federal, state, and local governments are 4.2 percent green and closer to gender parity with men comprising 55.3 percent of government employees. The industry sector that includes the management of companies and enterprises is 3.6 percent green, and 52.9 percent men. The remaining industry with above average percentage of the sector considered green – natural resource and mining (3.4 percent green) – is decidedly male dominated. Within the industry sector, 75.3 percent of the jobs in agriculture are held by men and 87.9 percent of the mining workforce is male.

The "Green Goods and Services" data and Bureau of Labor Statistics data on gender diversity by industry sectors reveals gender disparity in the green economy. The greenest industry sectors employ more men than women. The two industries with the highest percentage of green goods and services (utilities at 12.9 percent and construction at 8.9 percent) have very low percentages of women employees (22.2 percent and 9.2 percent, respectively). Conversely, 4 out of the 15 industry sectors included in this dataset employ more women than men: education and health services (74.4 percent women), financial services (54.7 percent women), services other than public administration (52.0 percent women), leisure and hospitality (50.4 percent women). These industries with majority women employees have below average percentages of the industry considered green (0.1, 0.0, 1.3, and 0.2 respectively). Based on this data, women appear to be vastly under-represented in the green economy.

Taken together my research findings along with those by Hegewisch, Hayes, Bui and Zhang (2013), Tabish (2013), and Walsh, Bivens and Pollack (2011) provide a growing body of evidence on gender disparity in the green economy. However, these other studies do not address why this may be the case. Two common assumptions are that women care less about green endeavors and that firms select for men and avoid sustainability measures to enhance efficiency and/or profitability.

PREDICTORS OF WOMEN'S INVOVEMENT IN THE GREEN ECONOMY

Is the lack of women in the green economy because women just don't care about the environment as much as men? One of major contributions of sociology to the study of the environment is research on environmental attitudes. This literature provides a well-documented and persistent difference between men and women in environmental values, concern, and perception of environmental risk (Blocker and Eckberg 1989; Davidson and Freudenburg 1996; Bord and O'Conner 1997; Zelezny, Chua and Aldrich 2000; Dietz, Kalof and Stern 2002; Eisler et al. 2003; Hunter, Hatch and Johnson 2004; Kennedy and Dzialo 2015). This research indicates women express higher levels of concern for the environment, consider environmental risks more serious, and are more likely to support environmental protection initiatives than men. After an extensive review of this literature, Emily Hubbard Kennedy and Liz Dzialo (2015) describe their findings:

> …gender has been included as a demographic variable of interest in causal and exploratory modeling of environmentally relevant behavior… hundreds of theses, book chapters, and journal articles have used primary and secondary analyses of state-level, national, and international datasets to test whether this gender difference in concern and pro-environmental behavior continues to hold in industrialized countries; and for the most part, it does. (P.922)

This gender difference is not uniquely a U.S. phenomenon. Several studies present cross-national evidence for a gender difference in environmental awareness with women expressing stronger pro-environmental attitudes than men in Spain (Navarro 1998), Jordan (Reid and Sa'di 1997), and France (Brenot, Bonnefous, and Marris 1998). Other studies indicate this gender pattern in environmental awareness begins early in life. Girls express stronger pro-environmental attitudes in Germany and Russia (Szagun and Pavlov 1995), and girls indicate feeling greater environmental responsibility in Australia (Hampel, Boldero and Holdsworth 1996). Based on this research one might assume women would be more likely than men to seek employment in the green economy, mirroring the gender difference environmental concern.

Going Green is Good for the Bottom Line, So is Gender

Can the issue driving women's relative absence from green jobs be profitability? The research suggests otherwise. First of all, going green is good for the bottom line. Recent studies demonstrate that integrating environmental sustainability into business practices increases performance and stock-price (Fisher-Vanden & Thorburn, 2011; Barnett & Salomon, 2012; Flammer, 2013; Eccles et al., 2014). Second, business research and economic policy studies indicate a positive association among the proportion of women in leadership roles, sustainability initiatives, and economic performance. Research suggests women play a more significant role than men in environmental initiatives, including reducing a firm's carbon emissions (De Silva & Pownall 2014). CEO gender affects a firm's corporate social responsibility performance (Huang 2013). A recent study of 296 publicly traded U.S. firms over a 5-year period indicated that gender diversity in the workplace and the boardroom are significant predictors of a company's environmental sustainability initiatives (Kassinis, Panayiotou, Dimou, and Katsifaraki 2016).

This study concludes that gender diversity is a sustainability issue. These studies indicate that going green is good for the bottom line and the more gender diversity, the greener the firm. If firms were operating rationally, one would expect lots of women in the green economy.

If women express stronger environmental attitudes and increase environmental and economic performance of companies, why is there not a greater representation of women in the green economy? In fact, why are women not seeking employment in the green economy at higher rates than men?

GREEN ECONOMIC STIMULUS AND GENDER-NEUTRALITY

I propose a possible explanation: the policies designed to help foster the green economy and create green jobs have an implicit gender bias. They are focused on industries and jobs in which men typically work, ignoring industries and occupations in which women typically work. This is clearly seen in the data presented above. I suggest this represents a conceptualization of the green economy that is not gender-neutral. Rather these policies have been developed from the standpoint of men.

Occupational Gender Segregation, Green Jobs, and Gendered Assumptions

The Bureau of Labor Statistic data presented above indicate the majority of green jobs are in industries and occupations that predominantly employ men. This is curious because, from a global perspective, women are water haulers (utilities), fuel gathers (energy), and waste pickers (waste services and recycling industries). This work in the utilities, energy and waste management sectors is not paid or counted as part of the green economy. According to a 2014 UN report on the theme of gender equality and sustainable development, employment in the

green economy globally is expected in traditionally, and currently, male dominated industries (UN 2014). As Nevena Pavlović (2017) writes:

> …women are underrepresented in the energy industry work force and are rarely considered as stakeholders for energy initiatives. Even more, women's economic contribution to the energy sector, such as fuel collection, is unpaid, unrecognized and undervalued and their activities of energy use are often not reflected in national statistics. (P.99)

Writing in 1990, Joan Acker describes the "ample empirical evidence" on how occupational gender segregation is surprisingly sticky, transferring from old sectors of the economy to new industries:

> We know now that gender segregation is an amazingly persistent pattern and that the gender identity of jobs and occupations is repeatedly reproduced, often in new forms (Bielby and Baron 1987; Reskin and Roos 1987; Strober and Arnold 1987). The reconstruction of gender segregation is an integral part of the dynamic of technological and organizational changes (Cockburn 1983, 1985; hacker 1981) …Theories that posit organization and bureaucracy as gender neutral cannot adequately account for this continual gendered structuring. (P. 145)

Based on Acker's work, which is almost 30 years old, one would not be surprised that gender segregation in the workforce has carried over into the new green economy. Or, that occupation gender segregation not much changed in the past three decades (Cech 2015; Levanon and Grusky 2015; Ridgeway 2011; Blau, Ferber and Winkler 2010; England 2010; England and Folbre 2005; Levanon and Grusky 2015; Blair-Loy 2003; Reskin and Roos 1987). Why is this the case?

One possible explanation is that men chose male-dominated industries and occupations with higher salaries because they plan on being a provider for a family and women chose female dominated, lower-paying, care occupation with more flexible schedules to accommodate caregiving. Erin Cech (2015) research blows apart the "family plan thesis." Interviews with 100 college students on their family plans, classes, and career directions indicate most students don't think about family plans when making decisions about majors and occupations, she found only 25 percent of male and 13 percent of female students consider family plans when making career

related decisions. The few students who do anticipate and plan for a provider or caregiver role do not choose male or female dominated occupations. Occupation gender segregation is not due to logical decisions based on plans to have a family and gendered expectations of who will take care of children. Instead, Cech finds occupation gender segregation, "an obdurate feature of gender inequality in the United States" (2015:265)

It is possible that the green economy as counted by the Department of Labor, and anticipated by the UN, is limited in scope to industries and occupations that employment men because these conceptualizations of the green economy are based on the standpoint of men. If we were to assume ideas about the green economy are based on a masculine green worker, that would not atypical. Acker (1990), describes this phenomenon:

> Both traditional and critical approaches to organizations originate in the male, abstract intellectual domain (Smith 1998) and take as reality the world as seen from that standpoint…Since men in organizations take their behavior and perspective to represent the human, organizational structures and processes are theorized as gender neutral. (P.142)

In her analysis of three alternative approaches to a capitalist growth economy from an ecofeminist perspective, Christine Bauhardt (2014) notes the same trend:

> The Green New Deal concentrates solely on the expansion of sectors such as energy and construction that are traditionally dominated by men: "All these industries are male-dominated, meaning that, for the most part, the Green New Deal will directly affect men and male labour" (Kuhl, 2012: 13). Thus, this perspective is implicitly gendered, without explicitly reflecting upon its male gendered bias. (P.65)

Ecofeminist Karen Warren (1997) noticed a similar situation regarding the forestry industry in India. She noted that some key assumptions are male-biased. For example, the idea that the technical expert /outsider knows better than local women who use the forest daily is a gendered assumption. That large-scale, monoculture agriculture operated by men is privileged by industry and government over small scale, diverse, community-based, and women run agriculture is

another gendered assumption. That women-run agriculture, because it often exists outside the money economy, is less important and de-valued is another gendered assumption.

I see similar gender assumptions operating in the green economy and green jobs in the U.S. For example, investment in large-scale, corporate wind farms interspersed between monoculture industrial agriculture (an industry dominated by men) privileges men's work. An alternative would be investment in household or locally-owned renewable power generation and small-scale, people-powered agriculture grown for family, friends, and the local community. Women are better represented in household decisions, government jobs (44.7 percent women), and small-scale organic agriculture (see Chapter 3). Why not invest heavily in organic farming and local / household owned renewable energy? This alternative to the mainstream approach to growing the green economy would come close to gender parity, and green jobs for all.

Green Jobs and influence of Trade Unions

Another possible explanation for most of the green jobs in industries and occupations that primarily employ men, is that specific trade unions were influential in crafting green jobs policies and this is reflected in the way the green economy was invested in and measured by the Green Goods and Services survey. Cohen (2017) argues that the conceptualization of green jobs is influenced by policy makers' concessions to trade unions wary of losing jobs in energy intensive or resource extractive industries. Replacing jobs in coal, oil, and gas industries with green jobs in wind, solar, and other renewable energy industries curries favor with unions and helps assuage concerns over "job killing" environmental policies. This is in addition to the practical matter of the need to replace finite and polluting coal, oil, and gas energy production with renewable energy. To understand how the conceptualization of green jobs seems to be

limited to energy industry, Cohen points to the advocacy efforts of Canadian trade union for inclusion in the new green economy as an important driver. A similar effect of trade union activism and green jobs may be reflected in U.S. Groups like the Blue Green Alliance may be exerting influence in the way the U.S. green economy is conceptualized, invested in, and sold to the public. Cohen describes how in Canada the largest blue-collar trade unions poured the most into the green jobs discussion, and the female-dominated public-sector trade unions were virtually silent on green jobs. Thus, Cohen writes, "it is not surprising…that the discussions on both green jobs and the green economy tend to focus almost exclusively on a certain sub-set of industries" (2017:300).

GREEN JOBS IN WOMEN DOMINATED INDUSTRY SECTORS

Policies and investment could be aimed at creating green jobs in industry sectors that women already gravitate towards. Currently industries with a greater representation of women have below average percentages of green goods and services. If nothing else these are untapped areas for green economic initiatives.

Good green jobs for all would include work in industries that predominately employ women. For example, 74.4 percent of jobs in healthcare and education are held by women. There is already an environmental health movement to address adverse health and well-being impacts of man-made toxic chemicals (Davies 2015). There is a burgeoning eco-industry for end-of-life care. Current practices are toxic and alienating and there are greener, cost-effective green burial practices (Kelly 2015). Investments could be made to green healthcare. Leisure and hospitality is 50.4 percent women (0.2 percent green). Eco-tourism and restaurants using locally sourced, sustainably grown ingredients are areas for growth in a green economy for all.

Environmental work needs to be re-valued based on ecological, just, and life-affirming principles in order to achieve the urgently needed sustainable green economy.

CONCLUSION

In this chapter I analyzed Department of Labor data revealing gender disparity in the green economy. Two other studies that use similar methods, but different datasets, to estimate the gender distribution of the green economy found similar patterns of gendered green jobs. This other research is policy focused and targeted towards a policy-makers. My objective is not only document the gender composition of the green economy. I seek a sociological explanation for these results. In the following chapters, I look beyond the official accounting of the U.S. green economy to capture environmental work outside the scope of the Green Goods and Survey data and outside of the commonplace assumption about environmental work. Ecofeminist Greta Gaard (2015) writes that:

> An economic transition from excessive takings (i.e. "profits") from women, indigenous communities, the Two-Thirds World, animals, and ecosystems to a green economy requires sustainable jobs of the kind advocated by Van Jones' organization, Green for All. These jobs will include sustainable energy systems, sustainable transit systems, and urban planning guided by environmental justice.

I too bought into the "Green Jobs for All" narrative, and initially saw green jobs as a gender-neutral issue. The data presented in this chapter indicates otherwise. I did not initially realize that the green economy conceptualized in this way, with a focus on sustainable energy, transit, and urban planning, would continue the "excessive takings" from women labor.

Ecofeminist theory connects the social and the environmental / ecological in a way that takes into account ideology, material reality, our relationship to the environment, and even our larger place in the universe. Ecofeminist, and many others, connect environmental sustainability with social sustainability arguing you can't have one without the other. Ecofeminist theory is

based on the idea that the domination of some people and domination of nature are inexorably linked. I have wrestled with this idea, trying to figure out how to provide evidence for, operationalize, or test this theory. That the green economy does not take into account women, almost gets us there. What's missing become clear when considering the implementation of policies to encourage women to join the green economy. I tackle this in the next chapter.

Chapter 3: U.S. Green Jobs Policy

By 2010 policy makers at the state and federal level were noticing the gender imbalance in U.S. green jobs and initiatives to encourage women and other non-traditional workers to join the green economy were underway. The U.S. Department of Labor (DOL) held green job fairs funded green job training programs. The Department of Labor issued a report that focused on getting women in the green economy. The report was titled "Why Green Is Your Color." Women already express stronger pro-environmental attitudes than men. Women push harder for sustainability efforts in their workplaces. I would be more interested in a report titled "Why There Aren't Green Jobs in Industries that Predominantly Employ Women."

At the Department of Labor's Women's Bureau, the only federal agency "mandated to represent the needs of wage-earning women in the public policy process" (U.S. Department of Labor N.d.), the message was inclusion and awareness:

> The US Dept. of Labor's Women's Bureau is taking the lead in ensuring that women of all ages and socioeconomic groups are aware of and prepared to succeed in the emerging "green" jobs sector, which according to Secretary Solis will be a key driver of America's economic recovery and sustained economic stability. The Women's Bureau is collaborating with employers, unions, education and training providers, green industry organizations, and other government agencies to raise awareness, expand training options, and promote the recruitment and retention of women in green career pathways. (US Department of Labor 2010b)

Women are aware of and succeed in many industry sectors. Why would they need to become aware of green job pathways if they were already available in the industries they work in?

For those not already incorporated into the paid economy, $55 million of federal funds was designated to help underserved and underrepresented workers find jobs in the green economy, including American Indians, at-risk youth, farm workers and women. One of the first programs to receive these funds was the Apprenticeship and Nontraditional Employment for

Women program in Washington State that provides training and certificate programs in green industries exclusively for women who are low-income, unemployed, at-risk youth, or veterans (Solis 2009).

What types of jobs are these programs preparing women for? Are they solely jobs in industries that have, for the most part, historically employed men? If so, what happens when women join these male-dominated green industries? And, why are there not policies aimed at creating green jobs in sectors and for types of work that women already gravitate towards?

I brought these questions to a 2013 meeting at the Women's Bureau in Washington, D.C. At this meeting regional directors listened a presentation of, and discussed, the Women's Policy Institute's research on women and the green economy discussed in the previous chapter. The regional directors shared their experience of Women's Bureau's initiatives to get women in green jobs. One of the regional directors shared a story from a woman she had met who completed a green job training program. The regional director described that despite the glut of unemployed construction workers with years of experience looking for work in the tight post-2008 recession job market, this woman landed a green job on a construction crew building a wind farm. The job site was in a windy and remote area of the upper Midwest. It was a good paying job that she was happy to take. But the regional director said the women told her she carried a gun.

The phrase "she carried a gun" guided my research into the on-the-ground reality behind the labor market statistics presented in the previous chapter. The quote is but one dispatch from women trying to direct federal funds to grow the green economy and create "green jobs for all" but I can't get it out of my head. Studies indicate women who work in male dominated industries face higher levels of harassment and discrimination (Miller 2004). Why would a

federally sponsored green jobs initiative, run by the Department of Labor's Women's Bureau, focus exclusively on industries and occupation that predominantly employ men?

In this chapter I critically examine U.S. policies designed to grow the green economy and create green jobs. Beginning from the standpoint of women helps us better understand how federal programs to grow the green economy contribute to the on-the-ground reality of gender inequality in green jobs. I examine U.S. discussion of green jobs in the congressional record and existing studies on green job training programs. Building upon scholarship on gender and policy, I argue the mechanism that create gender-biased policies are evident in the privileging of areas of the green economy (e.g., renewable energy) over other green economic sectors that approach occupational gender parity and there are equivalent environmental gains to be made (e.g., local sustainable agriculture).

GENDER-BIASED POLICY IS NOT A RECENT PHENOMENON

There is a reason to suspect green policy is gender-blind and gender-biased. For decades, feminist scholarship has pointed out gender bias in policy and reveals the process that brings this about (Campbell and Teghtsoonian 2010; Crocker 2010; Hobson, Lewis and Siim 2004; Mellor 1992). The mechanisms that create gender-biased policy include incorporating women into existing gender-biased systems, defining or delimitating a policy issue in a way that does not incorporate women's experiences, or proscribing limited options for action that only gives the appearance of addressing underlying issues for women.

Campbell and Teghtsoonian (2010) study of international development policies aimed at women highlight two types of policy processes. The first is an integrationist approach, "one that seeks to incorporate gender into the organization's business as usual." The second a

transformative approach which seeks to "revise fundamental assumptions underpinning the organization's work" (p. 180). They judge the effectiveness of policy for women based on this dichotomy. Their measure for effective policy is to look at whether or not the policy seeks to incorporate women into existing system without addressing fundamental assumptions and underlying gender-biases. Is green economic policy in the U.S. integrationists?

Campbell and Teghtsoonian's test of the efficacy of policy from the perspective of women is expanded in Crocker's (2010) analysis of Canadian policy seeking to ameliorate violence against women. She describes how the ways Dating Violence and Violence Against Women surveys are measured, and how violence is classified, leads to limited options for action. By defining violence in a way that does not take into account all forms of violence women face, government policies appear to be addressing the problem yet provide a limited set of options. Crocker argues this is evidence of the state's lack of interest in getting at the underlying inequities and in line with the neo-liberal governance encourages individuals / women to take action but prescribes a limited set of choices. If a similar phenomenon was occurring with policy to create green jobs for all, green job would be measured and classified in a way that does not take into account all forms of green jobs. It would be gender-blind because it would not "see" green jobs in industries and occupations that employ women. Instead gender-biased green job policy would proscribe a limited set of options for green jobs opportunities. There would be federal initiatives that provide women support to enter the green economy, but only in industries that women tend to not work in. I believe there is evidence of this limited set of options for green jobs, primarily in male-dominated industries, in numbers presented in the last chapter and in studies on the green job training programs that grew out of U.S. green economic policy at the federal level.

Pink-Collar Green Jobs: Green Economic Policy for Women

Green economic policy that is not gender-blind or gender-biased would include green job training programs geared towards industry sectors and for types of work that women already gravitate towards. A handful of jobs programs targeting women were created from the 2008 American Recovery and Reinvestment Act funds earmarked for green jobs. Lynne Woehrle's (2009) study of three green jobs programs in Wisconsin helps illustrate the mechanism that create gender-biased green economy policy.

The Milwaukee Community Service Corps is a job training program for 18 to 23-year-old women. Young women receive training in rehabilitating homes, installing solar electric and passive solar systems, planning and planting community gardens and rain gardens, starting up recycling initiatives, integrating rain barrel and water technology improvements, and remediating contaminated soil and groundwater (Woehrle 2009). This program gives women opportunities they don't usually have and helps to break down the division of labor and jobs by gender. This initiative, using Marie Campbell and Katherine Teghtsoonian (2010) term, is still an integrationist approach. It is a business-as-usual approach to green jobs that focuses on creating jobs in male-dominated industries. A transformation policy approach would revise fundamental assumptions, i.e. that there is green work worth paying for, worth training for, in female-dominated industries too.

Another Milwaukee project called "Project Lead the Way" is based in public schools, geared towards girls, and does address underlying gender inequality in science and engineering education. This program integrates sustainable, green industrial technologies into existing applied science and math programs to close the gap between women and men in green science,

technology, and engineering jobs (Woehrle 2009). Less that 30 percent of STEM jobs are held by women (National Science Foundation 2017). Project Lead the Way aims to integrate women into typically male dominated fields. This project begins to move beyond what Diane Crocker described as policy that indicates evidence of the state's lack of interest in addressing underlying inequities. It was not policy that encourages women to take action to get a green job but prescribes a limited set of choices for green jobs in male-dominated industries. Rather, this project aims at tackling underlying gender inequality in math and science education. However, other underlying problems remain unaddressed.

Since the late 1990s, women have earned 57 percent of college degrees and almost half of all science and engineering bachelor's degrees (National Science Foundation 2017). But, women leave the STEM fields in droves. A full 50 percent of women engineers leave the field mid-career, compared to only 10 percent of engineers who are men (Society of Women Engineers 2007). Glass, Sassler, Levitte and Michelmore's (2013) research indicated that women are not leaving STEM fields because of family factors or difference in job characteristics between women and men. Instead, using ongoing panel survey data from the nationally representative sample of 12,686 young men and women in the National Longitudinal Survey of Youth 1979 data set, Glass et al found women in STEM jobs do not receive the same investments and job rewards from their employers as men. This erodes women's commitment to the field. Gender discrimination in the workplace in male-dominated industries better explains why women leave STEM jobs. This is the underlying problem that remains unaddressed by well intended green job programs like Project Lead the Way.

The last green jobs program included in Lynne Woehrle study focuses on local food production including greenhouse aquaculture, community gardens, composting, and vermiculture

(Woehrle 2009). Called "Growing Power," this green job program is geared towards growing green jobs in industry sectors, and for types of work, that women already gravitate towards. Women comprise almost half of U.S. farmers who grow sustainably and for local markets. This is a green job program that is beyond integrationist, beyond a prescribed set of choices that does not get at underlying inequalities that perpetuate occupation gender segregation.

Woehrle (2009:78) notes that green job training programs are "often aimed (intentionally or not) primarily at males." She suggests that, "Gender impact studies should be included in the design of education and training programs because truly sustainable development provides opportunities and equity for all" (78). The gender-blindness in green jobs programs is no accident. Patriarchal capitalist economies are built upon gendered occupation segregation that privileges men's jobs over women's.

The U.S. is not alone in this gender-blind green policies. Ecofeminist political economist Mary Mellor, writing in 1992, shows how the tension between environmental policies and women in Great Britain occurred. Mellor describes that women were seen as a "natural" source of support for the ecology movement thus their voices were left out of green policy, and their specific needs unaddressed. Women were viewed by those working on environmental policies as naturally inclined to care about the environment, and therefore would go along with any policy deemed green. She argued that, "In the absence of a positive integration between feminism and green thinking, green politics is in danger of reverting to, or never leaving, a masculinist stance reflecting the values of patriarchal society (1992:229). Green job policy that never left a masculinist stance on employment and the values of a patriarchal society would privilege men's green jobs over women's environmental work.

The mechanisms that create gender-biased policy revealed by this research include incorporating women into existing gender-biased systems, defining an issue or proscribing limited options for action in a way that leaves out women and does not address underlying issues or values. Ostensibly U.S. policy to grow the green economy focused on renewable energy and green construction because these sectors would not only create new jobs and green infrastructure, this policy would also help combat climate change. Green job policy designed to mitigate climate change that take into account women would address underlying issues of gender inequality in the economic system. On the most basic level, green economic policy would acknowledge the sexual division of labor in the economic system and include green jobs in women-dominated industries that also reduce greenhouse gas emissions. Two places to start could be American Recovery and Reinvestment Act and the Farm Bill.

U.S. GREEN ECONOMIC POLICY: GREENING EXISITING (Infra)STRUCTURES AND COMBATTING CLIMATE CHANGE

In June 2010, President Obama issued a statement outlining his administration's plan for a green recovery from the 2008 global economic downturn:

> Each of us has a part to play in a new future that will benefit all of us. As we recover from this recession, the transition to clean energy has the potential to grow our economy and create millions of jobs -- but only if we accelerate that transition. Only if we seize the moment. And only if we rally together and act as one nation -- workers and entrepreneurs; scientists and citizens; the public and private sectors (Obama 2010).

The Obama administration backed up this commitment to a green recovery with federal funds and policies geared towards renewable energy. But, the policy conversation about the green economy go back 30 years.

Discussions about market-based solutions to curb environmental problems in Congress began in 1980s. However, it was not until the 106th Congress (1999-2000) that the term "green economy" was used, interestingly by Congressmen Farr from California in a discussion of off-shore drilling. Not mentioned again until the 110th Congress (2007-2008), the "green economy" was invoked 45 times during this period in discussions and bills related to everything from climate change to energy security to job creation. In fact, the first time the "green economy" was mentioned during the 2007-2008 congressional season was a 1-minute speech given by then Secretary of Labor Hilda Solis who described the green economy as a pathway out of poverty.

After a peak in the 2007-2008 Congressional session, discussions about the green economy cooled considerably. A search of the *Congressional Record* reveals that by the 114th Congress (2014-2015) there was only 1 mention of the "green economy". In 2016 there were three. Last year, 2017, the green economy saw a bit of an uptick. It was mentioned 8 times in discussions related to tax reform, a climate change solutions caucus, in a series of unrelated resolutions including celebrating the bonds between India and the U.S., and in discussions about leaving the Paris climate change accord.

Energy Policy

While there was much mention of the green economy in Congress, the only bill that explicitly invested in the green economy was the 2008 American Recovery and Reinvestment Act. It included more than $80 billion in funds to jump start the green economy with investments in renewable energy, manufacturing capacity for clean energy technology, vehicle and fuel technologies, and revamping county's electric grid (The White House 2010). This policy initiative, like President Obama's remarks quoted above, focused on the green energy sector.

These efforts were touted as opportunities to create new, sustainable, green jobs. Three billion of the $80 billion earmarked in 2010 for clean energy was specifically allocated for fostering innovation and job creation. These jobs were in renewable energy manufacturing and infrastructure, biofuels, electric grid modernization, and energy efficiency retrofits (The White House 2010). As the data presented in the last chapter indicate, these are industries that employ men in far greater numbers than women. If, as President Obama indicated, "each of us has a part to play" in the green economy of the future, what part is there for women to play?

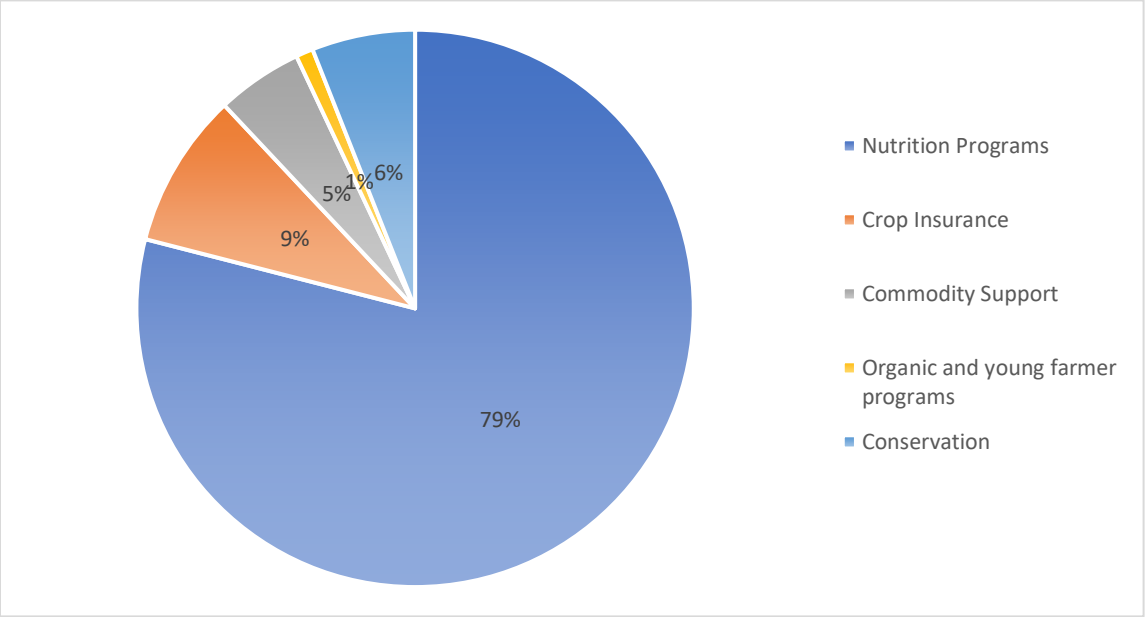
The focus of U.S. green economic policy on renewable energy, an industry that employs men in far greater numbers than women, is often justified by the need for energy independence, the finite nature of fossil fuels, and reducing greenhouse gas emissions to reduce impacts of climate change. Of the 177 times the "green economy" made its way into the *Congressional Record*, 164 times "energy" was also mentioned. "Energy independence" was mentioned in conjunction with the "green economy" 75 times. "Fossil fuels" is included in 65 of the 177 entries in the congressional record related to the green economy. "Climate change" was invoked 92 of the 177 times the green economy was discussed.

If energy independence is the goal, and gender equity in green jobs a consideration for policy initiatives, then it is logical that investment would be guided by 1) environmental gains like the reduction of climate disrupting greenhouse gases, and 2) towards industries and occupations with gender parity. By this logic, as I will argue in this remainder of this chapter, it would make as much sense to invest in sustainable food systems or household conservation efforts as ramping up renewable energy.

Agricultural Policy

Agriculture produces more greenhouse gases than any other sector apart from energy generation (Vermeulen, Campbell & Ingram 2012). Policy to grow a greener agriculture sector is housed in the Farm Bill. Created in 1933 during the Great Depression, the Farm Bill covers a wide array of policies relevant to the production and distribution of food, including crop subsidies, international trade in agricultural products, forest lands, school lunches, and the Supplemental Nutrition Assistance Program (SNAP) also known as the food stamp program. The last Farm Bill passed in 2014 with a massive $956 billion spending package (Union of Concerned Scientists n.d.). Figure 1 shows how this money was divided up. Nutrition programs, including the food stamp program, comprise 79 percent of the projected spending over the 2014-2023 period, the largest amount. Crop insurance (9 percent) and commodity supports (5 percent) combined are the second largest programs funded. The majority of these funds goes towards price supports for dairy farmers and for farmers who grow commodity crops like corn, wheat, soybeans, cotton, and rice. Conservation initiatives comprise 6 percent of the 2014 Farm Bill. Just 1 percent of total spending includes all the funding for programs that provide support to organic, sustainable, small-scale farms and incentives to encourage young people to join the agriculture sector (Orden and Zulauf 2015).

Figure 1. Farm Bill Expenditures.

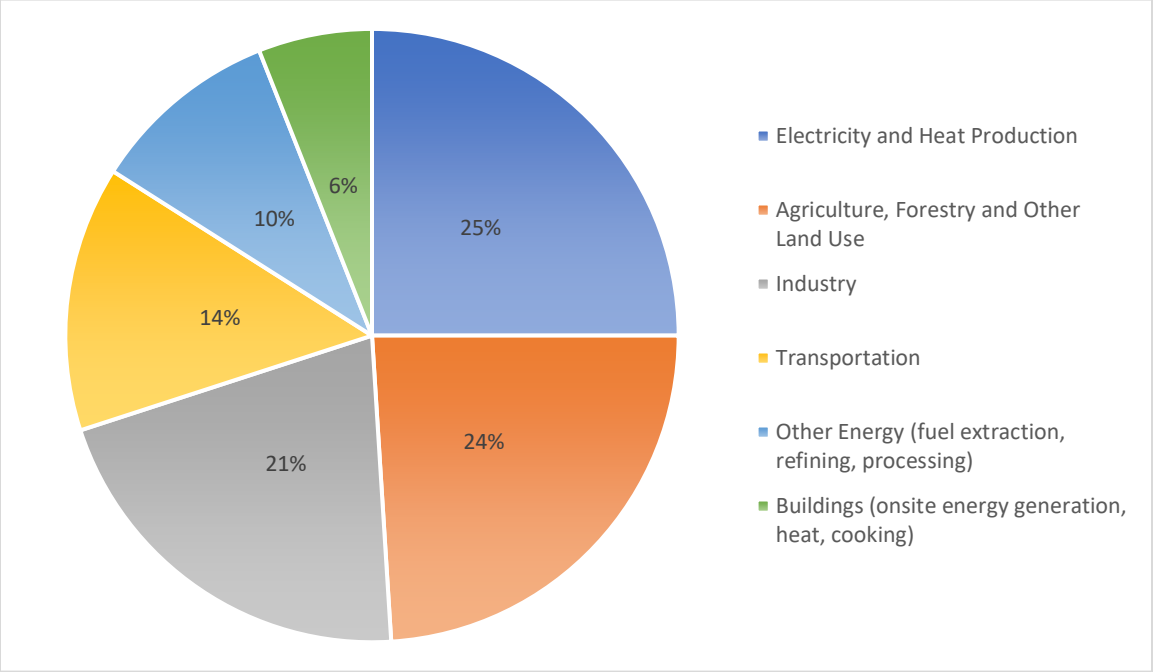


Source: Orden and Zulauf 2015

Major Factors Contributing to Global Greenhouse Gas Emissions.

The Intergovernmental Panel on Climate Change (2014) reports the contributions to global greenhouse gas emissions by major segments of the economy (see Figure 2). The energy sector is the largest contributor to global greenhouse gas emissions and was responsible for approximately 35 percent of total anthropogenic greenhouse gas emissions in 2010 (Bruckner et al. 2014). Renewable energy from bioenergy, direct solar energy, geothermal energy, hydropower, ocean energy, and wind energy has the potential to produce significantly more energy than the global demand (Bruckner et al. 2014:526).

Figure 2. Major Contributors to Global Greenhouse Gas Emissions by Economic Sector.



Source: Intergovernmental Panel on Climate Change 2014

Agriculture and associated land use/cover change contributes 25 percent of total global anthropogenic greenhouse gas emissions (Paustian et al 2016). According to the IPCC, the most cost-effective greenhouse gas mitigation option in forestry and agriculture is the conversion to sustainable forest, cropland, and grazing land management and the restoration of organic soils (IPCC 2014:29). Local, sustainable food production would reduce greenhouse gas emissions even more. Thirty to 40 percent of the food produced globally is lost in the supply chain from harvest to consumption (Godfray et al. 2010). Reducing the distance food travels from farm to plate would reduce waste, greenhouse gas emissions associated with agricultural production, and emissions from long-distance transportation of food.

Greenhouse gas reduction and the sustainable agriculture

The transition to renewable, zero-emission energy from solar, wind, geothermal, and tidal would address the 35 percent of global greenhouse gas emissions from energy. The transition to sustainable, local food production would lead to reduction in the 25 percent of emissions from agriculture and chip away at 14 percent of total emissions from transportation, while also ensuring food security, lessening dependence on fossil fuels, and increasing energy security. From the perspective of greenhouse gas emission reduction, the transition to renewable energy and the transition to sustainable agriculture are virtually equivalent.

Unlike the renewable energy sector, sustainable agriculture employs women and men at rates approaching gender parity (Jarosz 2011). While the overall number of farmers has decreased steadily for the past century, the number of women farmers has grown 300 percent since 1978 (Pilgeram and Amos 2015). In the 5 years (2002-2007) leading up to the 2008 recession and the largest influx of public and private investment in green jobs, the number of women farmers grew 30 percent. Much of this growth is due to women farming outside the traditionally male-dominated field of conventional agriculture (Sumner and Llewelyn 2011; Trauger 2004). While women hold 25 percent of agriculture jobs in the U.S., women represent 40 percent of farms that grow for community-supported agriculture initiatives (Jarosz 2011). Community-supported agriculture (CSA) reduces transportation and food waste, and the associated greenhouse gas emissions. CSA growers typically use sustainable agricultural practices, often beyond the requirements for USDA organic certification (Connolly and Klaiber 2014). There are greenhouse gas reductions associated with these practices. Transitioning conventional agricultural cropland to organic production reduces greenhouse gas emissions by

17 to 65 percent depending on the crop and soil management practices (Aguilera 2015; Venkat 2012).

Greenhouse gas reduction and the household

Households contribute 11 percent of greenhouse gas emissions in the U.S. Compared to the emission associated with the global energy sector (35 percent) and agriculture (25 percent), household emissions (11 percent) is not that far behind these huge industry sectors. If we can invest in green projects in energy or agriculture, why not households?

Households play a large part in behavioral changes that reduce greenhouse gas emissions. The 2014 Intergovernmental Panel Climate Change (IPCC) *Summary for Policy Makers* reports behaviors, lifestyle, and culture have a large influence on energy use. The IPCC finds that emissions can be "substantially lowered" by changes in consumption, energy efficiencies, dietary changes and reducing food waste (IPCC 2014:29).

If weaning ourselves off fossil fuels and finding new energy sources the for post-peak oil, post-carbon economy is the goal of U.S. green economy policy, then focusing on household level changes makes just as much sense and focusing on renewable energy. Of all greenhouse gas emissions in the U.S., 11 percent (10.5 quadrillion Btu) come from household energy use. Only 8 percent (0.84 quadrillion Btu) of household energy comes from renewable sources. The U.S. industrial sector comprises 22 percent (21.3 quadrillion Btu) of U.S. energy consumption, but 11 (2.34 quadrillion Btu) percent come from renewables – a total of three times more than households (U.S. Energy Information Administration 2017). Rather than individual consumers driving the growth in renewable energy, industry is adopting renewable energy at rates that outpace households. There is opportunity to reduce emission by encouraging renewable energy adoption at the household level.

Changes in household decision-making in industrialized countries could reduce 64 percent of food waste. This would reduce greenhouse gas emissions associated with landfilling an average 150–300 kg of food waste per household per year. The associated agriculture production and transportation emissions would also be reduced by dietary changes, like eating less meat and more locally produced vegetables, and reducing food waste (Parfitt et al. 2010).

Household decisions about what's for dinner impact greenhouse gases emissions. Carlsson-Kanyama and González (2009) study compared greenhouse gas emissions from three very different meals with similar energy and protein content and found a large variation. Production of a meal of soy, wheat, carrots, and apples generates 0.42 kilograms of carbon dioxide emissions. A meal of pork, potatoes, green beans, and oranges has even less associated carbon dioxide emissions, only 0.3 kilograms. A meal of beef, rice, cooked frozen vegetables, and tropical fruits generates a whopping 4.7 kilograms of carbon dioxide emission. In the case of these three meals, household food decisions account for a difference in greenhouse gas emissions by a factor of 10 (Carlsson-Kanyama and González 2009).

Greenhouse Gas Reduction Schemes and Gender Equity

Reducing greenhouse gas emissions, reducing the impacts of climate change, and meeting the sustainability goals of a socially just and environmentally sound policy was the stated goal of U.S. green jobs policy. U.S. federal funds were primarily invested in renewable energy, manufacturing capacity for clean energy technology, and revamping county's electric grid. In other words, the majority of the green jobs investment poured into the industry sector where 90.8 percent of workers are men (U.S. Dept. of Labor 2013b).

From a greenhouse gas reduction perspective, investing in sustainable agriculture and households makes as much sense as investing in the energy sector. But, it would have a very different gender impact. Women are employed in sustainable agriculture jobs at rates comparable to men. Women do twice as much work as men in the household (U.S. Dept. of Labor 2016).

How does one explain the focus of U.S. green economic development in renewable energy (with green jobs primarily for men) when you could get a similar reduction in greenhouse gas emission, reduce dependence on fossil fuels, and increase food security with investment local food systems (with gender parity in employment)? I argue ideas about what the "green economy" is does not address underlying, gendered assumptions about whose work is important, valued, and worth paying for. Green economic policy is focused on greening existing infrastructure, both energy infrastructure and socio-economic social structures. Patriarchal notions about who's work is worth paying for (men's), who's labor is a "labor of love" (women's), and what can be taken for free or is an "externality" (reproductive labor, natural resources, ecosystems services) is uncritically pulled into the design and concept of the green economy. Evidence for this assertion can be seen in the focus on renewable energy jobs over industries and occupations with gender parity, and similar environmental gains. This policy direction is neither gender-neutral nor environmentally-focused. The gender and policy literature discussed in this chapter helps to explain why this is the case.

The focus on creating jobs in industries in which men are employed in much greater numbers than women reflects the aspects of green economy the federal government is trying to foster: industries related to renewable energy and energy efficiency. However, these policies reify gender segregation and stratification in employment because they are focused on creating

jobs in industries dominated by men, without similar job creation policies in industries dominated by women. There are job training programs aimed at closing the gender gap in the green economy. But these programs are narrowly focused on industries where women do not choose, or are not chosen, to work. A green economy without gender bias would have an equal amount of "green goods and services" in industries and occupations that employ women.

Green Jobs are Gendered

There is scant research on specific green jobs and gender. One recent study on recycling work in the EU illustrates how the green economy retains the occupational gender segregation from the unsustainable economy it is meant to replace. Gregson, Crang, Botticell, Calestani and Krzywoszynska (2016) describe "clear and predictable effects" in the green waste / recycling / reclamation sector with old labor hierarchies transferred to new green jobs. They found waste work was highly gendered, and even based on the type of goods and materials. For example, textile recycling, "like much textile work the world over, is gendered as primarily women's work" (Gregson, Crang, Botticell, Calestani and Krzywoszynska 2016:549).

Karen Warren (1997) described how the failure to operate from the standpoint of women in developing countries leads to technological fixes that don't work for women. Sustainable development schemes directed towards women for combatting household level greenhouse gas emissions include solar cook stoves or bicycle powered grain grinding mills. These are not good policies fixes for women who typically cook in coolest times of day, before dawn or after dark, when the sun is not out. Or for women from cultures where they are not supposed to sit astride bicycles.

Beginning from the standpoint of women, this sometimes so-sad-it's-funny mismatch of policy prescriptive and women's lives is obvious. Cronin-Furman, Gowrinathan and Zakaria (2017) described how women facing violence or humanitarian crisis are often offered economic development projects:

> The result is programming that distributes cows and chickens to rape victims, enrolls former combatants in beauty school, and imposes sewing machines on anyone unlucky enough to be female and in need. (P.1)

The problem with chickens and sewing machines is the same as wind technician or energy audit jobs. It's not that these are bad jobs. The problem is that policy prescriptive aimed at women that do not originate from the standpoint of women give rise to programs that are ineffective. In the case of the US green economy, the state is pursuing a jobs program for men. And, if women want access to these green jobs too, sometimes that means to do the job you need to carry a gun. Operating from the standpoint of women would give rise to better policy outcomes. A favorite saying of a master plumber friend of mine is "if plumbing was easy women and children would do it" to which I respond, "if plumbing systems were designed by women and children, it would be easy (gravity fed), sustainable (passive ecological systems) and beautiful (rainwater collection and grey water reclamation bogs – in every yard)."

CONCLUSION: SEEING THE UNSEEN GREEN ECONOMY

In this chapter, I begin to describe what happens when policy is developed from the standpoint of men. Beginning from the standpoint of men means underlying and unjust gender norms and differences in the distribution of resources remain "unseen" - in the green economy or otherwise. I explored existing social theory and evidence that helps us better understand gender inequality in green employment. I found helpful ecofeminist theory and scholarship on gender and policy.

If you are selling green economic policy as sustainable, but it isn't socially sustainable because underlying gendered assumptions about work are not explored and the perspective of women isn't taken into account, two things happen. 1) We miss the low hanging fruit in terms of greenhouse gas reduction: household level energy independence and local sustainable food systems. And, 2) we end up of with gender-blind policies and green jobs almost exclusively in male-dominated industries.

I suggest federal green jobs initiatives, including the ones aimed at closing the gender gap in the green economy, are integrationist. Green job policy seeks to incorporate everyone into the green economy without ensuring green jobs in industries and occupations that employ men, and those that employ women. This is a business-as-usual approach. A better approach would be transformative green job policy which revises fundamental assumptions underpinning the gendered nature of the economy. In other words, that women's jobs are as important and necessary as men's. Green jobs policy to alleviate the recession, grow a new green economy, and combat greenhouse gas emission is focused on the energy and construction sectors. This narrow conceptualization of which green jobs are worth investing in limits the type of actions possible and proscribes a limited set of choices. In the next chapter I ask what explanations from women working to grow the green economy help us better understand gender inequality in green employment.

Chapter 4: The Green Impact Zone

In early 2009, U.S. Congressman Emanuel Cleaver II began an initiative to transform an economically blighted 150-block area in Kansas City's urban core into a sustainable community. The plan was to use state and federal funds in a concentrated area to make a major environmental, social, and economic impact. This "Green Impact Zone" was intended as a national model for green urban renewal. On March 27, 2009, Congressman Cleaver described this ambitious and exciting plan on the blog "Under the Clock":

> Thus far "green" investments have been reserved for those who can afford the upfront cost. In neighborhoods like these, where the median income is less than $20,000 a year, "greening" is simply not possible. This plan removes that burden and reduces the utility bills for those who need it most. With job training, neighborhood stabilization and infrastructure investments targeted here, "green" is no longer an academic concept for someone else — it becomes a means to change people's lives right here in our urban core.

In 2014 unemployment rates were as high as 50% in some areas of the Green Impact Zone, 37 percent of residents living in were poverty, and the median household income was $22,712 (Green Impact Zone 2014a). In this context, jobs are a vital part of creating a sustainable community. Since 2009, more than $155 million has flowed in to "the Zone" (Green Impact Zone 2014b). Some of these funds were allocated for green job training programs.

This dissertation seeks to understand the gendered nature of the U.S. green economy. National level data on the green economy indicates green jobs are concentrated in male-dominated industries and occupations. U.S. green economic policies invest in green jobs in male-dominated industries like energy and construction, despite similar environmental gains in industries and occupations with gender parity in employment. The data I've included so far

indicate men are over-represented in the green economy. As Cynthia Enloe (2000) asks, "Where are the women?"

I wanted to know how the *gendered* national level green jobs data and policies play out at the local level. As Congressman Cleaver expressed, going green is not just an academic concept. Going green means something to people's everyday lives. Green jobs policies trickle down and are implemented at the local level. What is the on-the-ground reality of the green economy for women?

To answer this question, I conducted a case study of the Green Impact Zone in Kansas City. I got involved in every way I could think of. At Kansas City's Mid-American Research Council (MARC), the intra-governmental organization coordinating the Green Impact Zone, I interviewed the community ombudsmen who are coordinating sustainability efforts in the Zone. I wanted to understand the implementation of policies to grow the green economy. I volunteered at the kick-off event for the community to see how the project was introduced to the community. I read everything I could find on Kansas City's Green Impact Zone: newspaper articles, information and quarterly reports from the Green Impact Zone website, other researchers work. I worked on an interdisciplinary research project housed at my university and focused on the Green Impact Zone. This included assisting in interviews with neighborhood association leaders while walking thru the area and taking photos, transcribing and coding interviews, reviewing grant applications and research article drafts. I attended research planning meetings with Green Impact Zone staff and researchers from other local universities studying different aspects of the project. And, I spoke with a key informant not directly involved in the project but very active in environmental efforts in neighborhoods with similar challenges located just outside the Zone.

In this chapter I draw upon data from three of these sources – interviews, text produced by MARC, and participant observation at the Green Impact Zone's kick-off community event – to focus in on the way sustainable green jobs policy is understood and implemented in the Zone.

THE GREEN IMPACT ZONE

In the previous chapters I argued that U.S. green job policies are unjustly gendered. I've drawn upon feminist and ecofeminist theory, research from the natural sciences, social policy literature, and my experiences and observations in the Green Impact Zone and the Department of Labor Women's Bureau. This patchwork of ideas and experiences represents my academic background, my observations, my situated knowledge. One way feminist researchers try to counter the bias that inevitably emerge when one employs personal experiences, values or feelings in the research process - an act that may prevent the researcher from seeing certain things and limit the types of questions asked - is to get engaged in community groups (Sprague 2016). To combat this bias, I made two dozen trips to the Green Impact Zone in Kansas City from 2009-2012. I volunteered at a community event, I attended three monthly research meetings held at MARC, and joined a research group that was conducting walk-along interviews in the Green Impact Zone with community leaders. I quickly realized that I am an outsider, was easily seen as such, and could only be engaged on the periphery.

Key informants were the way I could "get in." I interviewed an environmental activist from the area, but not directly tied to the neighborhood to get an insider/outsider perspective I also conducted a group interviewed women working for the Green Impact Zone project to get a sense of how green jobs policy from the federal level filtered down to the local level, how it was understood and implemented. My goal was to include the perspective of those working in the

day-to-day implementation of these policies. I listened closely for how these women, all with "community ombudsmen" in their job titles but different areas of focus, defined their work and what a sustainable green economy means in this context. I conducted a follow-up phone interview with the lead community ombudsmen who oversaw the green jobs training programs. I was curious to see how the data on gender and the green economy presented in the previous chapters jives with the experiences of those administering "green jobs for all" programs when the (paid) green economy was based almost exclusively in male-dominated industries and occupations. I analyzed documents produced in connection with the Green Zone in light of what I observed in the Zone and these key informants shared.

"Green Doesn't Just Mean the Environment, Green Means Money"

A few months into the Green Impact Zone initiative, I sat down with four of the seven Community Ombudsmen in MARC's impressive offices, a stunning Spanish style building located at the edge of the Green Impact Zone. We sat around a large table in a conference room with colorfully painted tiles, a fireplace and darkly stained wooden walls. The interview, just as the setting, was friendly, lively, but official. The community ombudsmen were all women, all African American, and all experienced in community development, environmental initiatives, public policy, or all three.

As I was hoping to gather the way MARC employs the concept of sustainability in creating the Green Impact Zone, I felt that interviewing the key meaning-makers, the individuals who link MARC's work with civic groups and private interests, in their offices would produce a snapshot of this process. These women served as liaisons between MARC, stakeholders, partners and the community. The group interview allowed for an interesting interaction; I felt as

if the women I interviewed were performing their role as Community Ombudsman for me, and each other. The interview was recorded on a digital recorder borrowed from the Sociology Department and transcribed by me. I listen to the interview several times, combed through the transcription, and identified themes related to the way sustainable green policy was understood and implemented at the community level.

This was a semi-structured interview, so I began with an open-ended question. I told them I was interested in hearing about "what it means to create, to work towards a sustainable community for MARC; what it means for people in the neighborhood, how people are thinking about that, if people are thinking about that, if that is something that strikes a chord, or not; if that is something that is being invented on the ground." As a response, I was handed the "Game Plan" for year one and the conversation began as a discussion about the participatory nature of the project.

They responded to this prompt for the next 1.5 hours trading off, jumping in, encouraging each other, and finishing each other's sentences.

> Community Ombudsmen A: "The leadership of the neighborhoods came up with this plan along with the director and the field organizers. We wanted to make sure the focus stayed on the people. All of this is about the people. So, we wanted them to have a part in setting the mission, and the vision, and what are the strategies."
>
> Community Ombudsmen B: "Partnerships are key, and engaging as many people in green impact zone as we can…. We are focusing on existing organizations and going to the grassroots level, to see what they're needs are, how we can help, because we want to tailor this to things people can take advantage of, just not things that we think are important. It's things that they think are important. We know that's where our success is going to be."
>
> Community Ombudsmen C: "Neighborhood (groups) were brought to the table, and said, this is the concept what do you think about that, and shift this concept into what you would like to see in your neighborhood…and out that that the game plan was developed. The game plan has nothing to do with us, in terms of the vision and stuff. Yes, we've embraced it and packaged it in a way that we can present to funders, to different stakeholders, but it has nothing to do with our vision. It's their vision."

Even though the question was about sustainability, the discussion continued to return to the idea of partnerships and community involvement.

When the conversation returned to the idea of environmentalism and sustainability, the Community Ombudsmen reflected on the ways they are packaging this message so that it is relevant, so that it strikes a chord, with the residents. After discussing the various immediate needs of community members, one Community Ombudsman said:

> Community Ombudsmen B: "People in the green impact zone are less prepared to actually go green, or take advantage of this new endeavor, green jobs…So, how do we change the mind set of individuals in the urban core and say "Hey, going green is not just a suburban concept, it is really for all of us. Everyone needs to stay focused on how we use our resources and limit as much as we can."

The way the Community Ombudsmen tailor the message of sustainability for the residents is similar to the way sustainability is defined by MARC generally. The focus is casting the meaning sustainability widely and using that to bring people to the table.

> Community Ombudsmen D: "For us, green is broader than the green we typically think about. Green for us is the environment, money – money is green. It's broader than when we think about green…because if people don't have the means, it people are on survival mode, it doesn't make sense to talk about "the world is coming to an end if you drink bottled water." To them it's just a concept. The whole idea is to have them understand what green means, beyond just the environment. And break it down to just a message that they understand, because that has been the problem. People know recycling is good. If you ask anyone they will say recycling is good. But if you ask them if they do it, it's not important to them. The few minutes is takes to separated this and that, what goes to the trash and what goes to recycle, for them it's how do I put food on the table. So, the thing that we have to be successful at, and that we know we will be successful at, is helping people understand the whole holistic approach. From job training, from education, youth, seniors, green in terms of environment and just how to sustain that. So, we believe that for us to achieve that, everyone has to be at the table."

Following on this comment another Community Ombudsmen replied, "Our residents, they construct meaning, we just help facilitate understanding." However, at the resident level, the Community Ombudsmen said they haven't gotten to that conversation about sustainability yet:

> Community Ombudsmen B: "What we're finding is that in April, May, people heard about money, people heard about the Green Impact Zone, but there is still no real understanding of what the green impact zone means. So, we're still working those messages out for the resident level. Neighborhoods get it, stakeholders and partners, they understand. But the resident, Mr. Joe Public Doesn't quite get it yet. So that's where we're having this Energize Your Zone, Impact the Zone fair on December 5th, so that those messages are clearly articulated at the resident level."

What became clear in the conversation with the Community Ombudsmen about sustainability initiative in the Zone, was that sustainability in these neighborhoods was not first-and-foremost about the environment. Social and economic sustainability was just as important, if not more important, than environmental sustainability. Jobs, housing, safe sidewalks, community involvement were important aspects of the conceptualization of sustainability of the neighborhoods in the Zone. Going green was not just about the environment, green also means good paying jobs and investment in the community. Because there was "still no real understanding" of what a green impact zone meant, going green also means reaching out to the community. The "Energize the Zone" community event was intended to help spread the message.

"Playing Nice in the Sandbox": Sustainability, Discursive Frames, and Participatory Policy-Making

The concept of "sustainable development" was originally defined by the Brundtland Commission as 'development that meets the need of the present without compromising the ability of future generations to meet their own needs" (Brundtland 1987). As a concept, it is a troubled marriage between economic growth and development and conservation of natural resources so that continued use is possible (Sachs 1997). Sustainable development was first called for the industrialized world, where high levels of consumption drives environmental degradation.

However, environmental degradation is "a condition of poverty as well as of wealth; it resulted from the activities of man, and not just of industrial man" (Sachs 1997:73). Thus, sustainability has also come to mean linking environment conservation and economic development with poverty alleviation programs, and "sustainable development" has become a leading strategy in combating poverty globally.

Sustainability is a cultural construction. Redclift and Woodgate (1997:56) write, "Sustainable development is necessary for all of us, but it may be defined differently in terms of each and every culture." With culturally specific definitions of needs and the appropriate action, sustainability becomes a slippery term open to interpretation, and not the elegantly straightforward Brundtland definition. It is a concept that is negotiated at every turn, in each moment and place, including in the Green Impact Zone. MARC defines sustainability broadly:

> Sustainability means not only environmental sustainability -- clean water, clean air, low energy use -- but also economic sustainability and social sustainability; access to good paying jobs, quality neighborhood amenities such as schools and parks, good quality housing, and a generally vibrant, active neighborhood, including actively engaged residents (MARC 2009a).

This is a conceptualization of sustainability that includes environmental, economic and social aspects. It is one in which economic development and environmental conservation hang (unproblematically) together.

Sustainability is employed by MARC as the frame that pulls together various issues - jobs, schools, parks, housing, neighborhood engagement, and invokes a link to Green Impact Zone initiatives:

> The initiative includes housing rehab and weatherization programs, community policing and services, job training and placement, and health and wellness programs, all built around a comprehensive neighborhood outreach program and using sustainability as a catalyst for this transformation (MARC 2009b).

On the power of discourse in urban planning, McCann (2002) argues that meaning-making discourses are "fundamentally intertwined with the place-making politics of local economic development" and that political actors frame reality in ways to promote interests and implement policy. Frames tap into these existing beliefs and worldviews. Nisbet (2009) writing about environmental frames, defines frame thusly:

> Frames are interpretive storylines that set a specific train of thought in motion, communicating why an issue might be a problem, who or what might be responsible for it, and what should be done about it. Framing is an unavoidable reality of the communication process, especially as applied to public affairs and policy. (P.15)

The community omsbud(wo)men's emphasis on participatory policy-making echoes McCann's assessment of the urban policy landscape. And it appears sustainability was introduced by MARC and used as way to construct a "relatively consistent discourse, or discursive frame" to engage the different stakeholders, the coalition of political actors (McCann 2009). In other words, the discursive frame of sustainability is the glue that keeps the coalition, as one community ombudsmen put it, "playing nice in the sandbox." Sustainability was an umbrella term under which disparate community needs, and voices, fit in the Zone. And because the definition of sustainability is cast wide, MARC can use this discursive frame to (1) link wide-ranging revitalization projects into a single cohesive, impactful project and (2) maintain partnerships with civic groups and private economic interests. MARC's goal was to "concentrate resources — with funding, coordination, and public and private partnerships — in one specific area to demonstrate that a targeted effort can literally transform a community." (MARC 2014a). Sustainability was a frame in which just about any community development initiative could fit.

The focus on discourse and framing in the policy arena is indicative of a reconfiguration in urban governance, shifting policy-making away from state towards partnerships with civic

groups and private economic interests (McCann 2003). This reshuffling of power can be seen in the change in the way policy is formed, or at least talked about, from a closed-door process to an emphasis on coalition building and stakeholder involvement in policy formation. It is a movement towards participatory policy-making. With all these actors at the policy-making table, each with different sets of interests and goals, how is consensus reached? How does a group like MARC keep, "everyone playing nice in the sandbox"?

McCann writes, "A major question in urban politics is how each coalition of political actors constructs a relatively consistent discourse, or discursive frame…. that resonates with their own political ideology and is persuasive to a wider community" (2003). Sustainability is a seductive discursive frame, in this regard. It allows economic, social, and environmental interests to align in an unproblematic way. New construction that is mixed-use and multi-price point can be seen as "sustainable" even if it less environmentally friendly than rehabilitating older housing stock. Mixed-use construction means businesses and homes are integrated in a way that promotes access and reduces transportation. Multi-priced housing units discourages gentrification and encourages a more diverse community with places to live for folks with different economic situations.

MARC's vision statement reaffirms a broad definition of sustainability and adds the importance of community involvement:

> To develop a sustainable community; one that is environmentally, economically and socially stronger tomorrow than it is today...using a comprehensive green strategy...coordinated programs with innovative delivery mechanisms...and intense resident engagement...to more rapidly push community change, build community capacity, and make the Green Impact Zone a place where people want to live, work and play (MARC 2009c)

Woehrle (2009), writing about green jobs training programs from an ecofeminist perspective, echoes this call for community-government and public-private partnerships. "The key word is

partnerships…Actors from nation-state, business, and community need to be involved in sharing knowledge and developing understanding of what it means to green the economy in a practical and equitable way" (79).

The powerless are often aware that official knowledge rather than serving their interests, often works against them (Sprague and Kobrynowicz 2004:89). To see how MARC initially articulated the message of sustainability with residents of the Green Impact, I volunteered and conducted participant observation at the Zone's kick-off community event.

"Energize Your Zone, Impact the Zone"

Held at a large public high school near the Green Impact Zone, the kick-off event titled "Energize Your Zone, Impact the Zone" was well planned, well staffed, and included several dozen informational booths, informational lectures on sustainability and energy efficiency, entertainment, games and food. Attendees, mostly women and children, visited booths pausing to see the information and ask questions. I was interested in how MARC would set the stage to engage residents in the process of green urban renewal. Would sustainability be framed in way to convince residents of the merits of the environmental side of the Green Impact Zone programs, of going green? Would sustainability be invoked to unite residents with other stakeholders sitting at the table?

There was not a formal opportunity for a discussion about resident's priorities or how they envision a sustainable transformation of their neighborhood. Rather, sustainability information was presented to residents of the Zone. MARCs goal for this event, as described by one of the Community Ombudsmen, was to bring together residents and various community groups to introduce some of the green initiatives planned for the Zone and so that residents can

become aware of the resources available to address pressing social and economic problems. This included a large display by Kansas City Power and Light of the Smart Grid technology that will be "deployed" in the Zone. The event itself can be understood as MARC presenting the idea of what the Green Impact Zone and sustainability mean, rather than the other way around. The message was that a lot of organizations are on board and the initiative is not just about "going green" but a holistic effort at community development.

As with green job policy, energy was the focus of this event. Green job information was limited to energy and home weatherization jobs. Several informational booths on how to go green or save money were focused exclusively on energy reduction. There were no green jobs on offer in industries and occupations that predominately employ women, even though most of the adults at the event, volunteers and guests, were women.

Numerous studies indicate that community involvement in sustainable development projects is crucial for success (Tach 2009; Shutkin 2005; McCann 2003). Shutkin (2005:85) found that civic engagement in a green development project transformed an us-versus-them situation (where the "them" could be environmentalists or city officials) to a "dynamic, collaborative processes that went well beyond environmental and land use issues to incorporate a community-wide revitalization strategy." It is clear from the interview with the Community Ombudsmen and my observations at the community event, that MARC knows this and took steps in that direction. But the "green jobs for all" did not materialize. To get another perspective, I spoke with another key informant, knowledgeable about the Green Impact Zone project but not working for MARC, a community organizer interested in sustainability and environmental initiatives as a way to revitalize urban communities, and a man.

"The Whole Program is a Mirage" - Key Informant Interview

I asked my key informant, who has many friends and contacts in the Green Impact Zone, about his sense of resident's view of the Green Impact Zone and sustainability. I was surprised that the response focused on MARC's meaning-making activities and lack of engagement with the community.

> Key Informant: The whole program is a mirage…. (MARC is) using terminology and wording, as people do for grants and stuff, to set up these programs, that's not what's needed here. Nobody's dealing with low income people. They're not even talking to them. They're (MARC) telling everybody what they want. They're not talking to low income people about what we need. It's just all hype, it's just all talk.

He then described a green job initiative in Portland, Oregon that was intended to benefit low-income, minority communities, but was planned without much community input. He said one of this project's first steps was putting bike lines through the community, a nice thing to have but not what was needed. My key informant suggested that if you are trying to find ways to help communities tap into green jobs, the first thing you need to do is set up daycare facilities, so people could go out and look for that green job or attend training programs. Instead, the community ended up with bike lanes and not a lot of people in green jobs. He concluded,

> …they just wanted the image, so they laid these bike trails out. It become more for image sake than it does a reality. So, they're still missing the boat…. We're still doing the same thing they did in Portland. We're telling people what they need. We're not listening to what people are saying.

From the standpoint of people who already have jobs, and less than two small kids who need to get to daycare, bike lanes make sense. For those without jobs, for those with health problems, for those without a bike, for those with caregiving responsibilities, for those without bikes, for those who need to save their energy for manual work – on the job or at home – bus lanes would make more sense than bike lines.

Green Job Training Programs in The Zone

The idea behind the green job training programs was to build skills related to green jobs already "in the pipeline". The local electric company, Kansas City Power and Light, was looking to hire solar panel technicians and there were funds to pay for home weatherization projects. Newly trained job seekers from the Green Impact Zone would fill these good green jobs throughout the city.

I called up the Green Impact Zone program coordinator who oversaw the first round of job trainings to see how it went. I had already interview her about the sustainability efforts in the Zone. I was wondering how many women enrolled in the program, expecting there to be many. Of the approximately 60 people who enrolled in the first job training program, she told me none were women. I asked this question to the Green Impact Zone green jobs program coordinator. She replied, "I think women just don't want to do that kind of work." She was finding that not many women wanted to climb around on roofs installing solar panels or crawl under houses to weatherize them.

The under-representation of women in green job training programs was not unique to the Green Impact Zone in Kansas City. A local non-profit in Seattle called "Got Green" created the Women in the Green Economy Project when their staff realized that not one woman had enrolled in its federal stimulus funded weatherization installer job training program (Anibarro, Lerman and Joy 2011). In New York City, the MillionTreesNYC green job training program focused on environmental restoration had only 25 percent women trainees (Falxa-Raymond, Svendsen and Campbell 2013). Mundaca and Richter's (2015) comprehensive study of American Recovery and Reinvestment Act stimulus policies aimed at renewable energy, including job training programs, found it notable that there were, "low numbers of women participating… despite the

fact that this group was a particular target" (1181). Their research found that 60 percent of the groups receiving ARRA job training grants specifically targeted women. However, only 16 percent of the people who received job training were women. Why aren't more women enrolling in green jobs training programs?

WHAT "GREEN" MEANS IN THE ZONE

The interviews with my key informant and MARC's community ombudsmen reveal a deep understanding of what a sustainable green economy means in the Zone. Four themes emerged: 1) "green means money", 2) "playing nice in the sandbox" or building relationships is key, 3) "energize the zone" highlighting a focus is on the energy sector, and 4) "the whole thing is a mirage" meaning that the green economic initiatives are not taking into account people's daily lives. In this neighborhood green is about the money, not primarily about social justice or the environment. The interviews also reveal it would take interconnected relationships of mutual support and care to transform the Zone into a sustainable community.

When considering the question "Where are the women?" the mismatch between the needs for good green jobs for all in Zone and gender-blind ideas of sustainability comes into view. All women at the administrative level in the non-profit or government white collar green jobs in the Zone were on short term, unstable employment contracts because these jobs were grant dependent and at the mercy of funding agencies. There was not paid work for most women in the "target zone." Women did not flock to the green jobs training programs because there were no green jobs on offer that women wanted to do.

The conventional conception of sustainability - its origins and its triple bottom line of environmental, economic, and social sustainability - does not adequately address issues

associated with insidious aspects of economic gender inequality. The term "sustainability" requires unpacking, because this idea guides the implementation of green jobs policy and action. While sustainability is often invoked as part of the mean-making process in the Green Impact Zone, gender equality as a tenant of economic and social sustainability is not. Because of the mismatch between official ideas of sustainability as gender-neutral and the on-the-ground reality of projects like the Green Impact Zone with job training programs that women are not joining, the policy response to growing the green economy is gender-blind. Green job policy does not take into account women. The on-the-ground reality is green jobs training programs that do not work for women. Women don't want to do that kind of work. Just like the green jobs programs I discussed in the last chapter, the green economic policy from which the Green Impact Zone jobs programs grew is integrationist. The green jobs programs are built upon ideas of sustainability that un-critically incorporate "business-as-usual" patterns of occupational gender segregation.

CONCLUSION

With the case study of the Green Impact Zone, I wanted to uncover the reality behind the labor market statistics presented in Chapter 2 and the federal policies discussed in Chapter 3. And, I wanted to see more than what I can see from my social location as a woman, an outsider in the Zone, a graduate student. The case study of the Green Impact Zone helps highlight what happens to policies that are sold as it as sustainable but aren't. At the national level, "she carried a gun." Women who work in industries historically and presently dominated by men report it being a dangerous, degrading, situation (Miller 2004). Another reason why "women don't want to do that kind work" may be not only because they don't want to crawl around under houses or

on roofs. It may also be because it's dangerous, degrading, and they face discrimination when they work in industries and occupations that historical employ men. At the local level, in the Zone, green jobs programs for women who do not have access to child care is "a mirage." Sustainable green urban renewal that works for women would not only include green jobs in industries and occupations where women already work, it would also take into account other barriers to employment for women like care giving responsibilities.

Chapter 5: Environmental Care Work

The phenomenon this dissertation seeks to understand is the gendered nature of the environmental work in the green economy, paid and unpaid. Beginning from the standpoint of women, I've explored the degree to which gender inequality is organizing the green economy in the U.S. My core argument is old patterns of gender inequality are being unreflexively carried over to the green economy. A key mechanism reproducing gender inequality in the green economy is a privileging of work traditionally done by men and a marginalization and devaluation of environmental care work that is more often done my women.

The majority of jobs in the green economy are concentrated in a few male dominated industries – energy, construction, transportation. The gender division of labor by industry is such that green jobs are predominantly men's jobs. Federal policies shape the green economy through funding initiatives to grow the green economy in these male dominated industries. These green policies neglect other areas of the economy where women work, and environmental gains could be made, including in the household, education and health care sector, and in sustainable agriculture. The case study of the Green Impact Zone helps bring into view the mismatch between policies designed from the standpoint of men and the on-the-ground reality of sustainability efforts.

KEY FINDINGS

The key federal policies influencing the organization of the green economy focused on one class of environmental work, renewable energy. In doing so, it missed the opportunity to build a green economy that would have a broader effect on greenhouse emissions reductions and gender parity

in green jobs. Those working on the ground to promote green jobs in the Green Impact Zone struggled to implement federal policy that was insensitive to the specific social contexts and how these are shaped by race/class/gender dynamics, something that becomes obvious if you begin from the standpoint of the mostly poor women living there. Work that counts as part of the mainstream ideas of the green economy, from the federal to local levels, is work in male-dominated industries. What is not counted is a lot of environmental work that comes together under the mantle of care work. This work is disproportionately done by women

The patterns in the data presented in the previous chapters suggest that environmental work is gendered. The gender division of labor in the green economy is no different than that of capitalist patriarchy with policies and paid green jobs for men and unpaid, environmental work for women. Feminists draw our attention to key aspects of patriarchal social order: 1) labor is divided by gender, 2) work done by white men is more highly respected and rewarded, and 3) women are held responsible for the work of nurturing and caretaking which is devalued considered low skilled, and often invisible and uncounted. Same for the green economy.

Ecofeminist theory draws our attention to the fact that patriarchy marginalizes the reproductive work of women, "others", and natural world. The real value of women's work is obscured, the real beneficiaries and culprits are hidden. Women's need for good green jobs and a fair distribution of environmental work are unseen. The value of natural resources and ecosystem services is unseen. The real work of a green economy, the work necessary to mitigate and repair the impacts of pollution and misuse, is unseen.

In this chapter I discuss further the gender division of environmental labor focusing on unpaid environmental work. I interpret the biases in dominant frameworks for understanding the green economy and develop an alternative approach by beginning from the standpoint of women.

I use four themes from the interviews in the last chapter as a guide: "women don't want to be doing that kind of work", "green means money", and "the whole thing is a mirage. These themes are used as a jumping off point for re-engaging the scholarly literature on care work, environmental economics, and environmental work.

My research on the gendered nature of the green economy points to similarities between care work and unpaid environmental work. I found that women are not enrolling in green jobs training programs at similar rates as men, despite the fact women consistently report stronger pro-environmental attitudes and behaviors than men (Xiao and McCright 2012; Hunter, Hatch and Johnson 2004; Zelezny, Chua and Aldrich 2000). I found that federal policies designed to help foster the green economy and create green jobs are focused on industries in which men typically work, neglecting the possibility of using policy to create green jobs in industries in which women are already employed. In the Introduction I discussed the studies on pro-environmental behaviors. I focused on the gendered nature of these behaviors and recast these behaviors as work.

Guided by interviews and observations from the previous chapters I return to the care work literature introduced in the first chapter. I tease out main themes and summarize the defining elements of care work from the scholarly literature and apply it to the green economy. Care work is work (i.e., labor or effort that takes time) that is necessary for social reproduction and the functioning of current economic system but feminized and devalued. I discuss the similarities and differences between care work, as previously conceived, and environmental care work. I discuss the gender and feminist theory that address why care work is feminized and devalued, and how it functions in the economy. I compare and contrast the "why" and "how" of feminized and devalued care work with environmental care work.

My goal in this chapter is to describe extend the care work literature to environmental care work, or why the idea of care work applies to certain types of environmental work, and how this work is rewarded and divided by gender. I argue that the social organization of work from the patriarchal capitalist (dirty, carbon intensive, anti-ecological) economy that divides jobs, roles, responsibility and types of labor along gendered lines is being unreflexively brought over to the green economy, threating its sustainability.

ENVIRONMENTAL CARE WORK: EXTENDING CARE WORK THEORY

The care work literature demonstrates that commonsense notions of work as something done for pay contributes to the devaluation of women's work; this includes emotion work women do while on the job, volunteer work, care work done in the private sphere, and perhaps unpaid environmental care work as well. Commonsense assumption that caregiving comes naturally to women feminizes care work and devalues it by justifying low wages and little training for paid caregivers, placing the burden of unpaid care work on women, and pushing women towards low-status, low-wage care work jobs (Cancian and Oliker 2000). Is environmental care work also seen as a natural activity for women and/or as work that requires little skill?

As the research on pro-environmental behaviors previous discussed indicate, there has been a privatization and feminization of environmental responsibility because the household has been a focal point for environmentally responsible actions (Wang 2016; Kennedy and Dzialo 2015; MacKendrick 2014; Cairns, Johnston and MacKendrick 2013; European Institute for Gender Equality 2012; Vinz 2009; Judkins and Presser 2008; Bryson, McPhillips and Robinson 2001). Just as it is assumed that much household work is "women's work", the same holds for environmental work. Other commonplace assumptions about unpaid environmental work are

similar to those associated with care work. For example, that environmental work is not work if it's not done for pay, that is not skilled (unlike green jobs in home weatherization or home energy auditing), and even that this work comes naturally to women.

"The whole thing is a mirage"

The ideology of separate spheres – a competitive, individualist, profit focused public sphere where male breadwinners earn wages to support unpaid female care work in a nurturing, home-based private sphere – provides an ideological framework that maintains feminized and devalued care work (Coltrane and Galt 2000; Cancian and Oliker 2000). This true for environmental care work. Some environmental work is considered part of the public sphere - those are the paid green jobs - while other environmental work like community cleanups and gardens is part of the private sphere, is volunteer work. This ideology of separate spheres helps to maintain a masculinized public sphere of paid green jobs and a feminized, devalued, private sphere of unpaid environmental care work. However, "the whole thing is a mirage" from the standpoint of women. Common sense assumptions about care work - i.e. that women are naturally inclined to it, want to do it, and it isn't really work that supports the entire social and economic system - is a mirage. It's hiding capitalist patriarchy and the domination and exploitation of women that goes along with it.

"Women don't want to be doing that kind of work"

It is important to note that gender is a product of routinized practices *and* the constraints placed on practices by institutions. Institutions play an important role in shaping gendered practice and maintaining regimes of gender inequality. This is done via ideologies related to gender like hegemonic masculinity and subordinated femininity or hegemonic heterosexuality, and thru incentives, social control, and the organization or structure of practice (Connell 1987).

Gender ideologies are enforced. We are held accountable when we deviate from proscribed gender norms (West and Finstermaker 1995; West and Zimmerman 1987). This applies to a social organization of care work that is feminized and devalued. Women do the majority of paid and unpaid care work, not because they are naturally better at it. Women do care work because we are expected to and are held accountable when we do not meet this gendered expectation. Furthermore, care work is devalued because, like gender, it is based on normative conceptions of femininity and masculinity that support male domination unfettered by care responsibilities and female subordination fettered by the expectation of preforming unpaid and underpaid care work. That women don't want to do certain green jobs that include crawling under houses or on roofs is a byproduct of both routinized practices - some women may not have a lot of practice doing this type of work - and the constraints placed on practices by institutions. Women may not want green jobs in industries that historically employ men and are built around gendered expectations for men. Women may not take green jobs in these industries because these jobs do not work for women due to the multiple roles and responsibilities heaped on women, like needing a flexible work schedule because women, more so than men, are expected to pick up the kids from school, take time off over school holidays, take grandma to the doctors, or stay home when someone is sick.

Chandra Talpade Mohanty (2006) argues that ideologies of hegemonic masculinities "require subordination of women and other forms of masculinities, heteronormativity, racism, and nationalism to consolidate and reproduce power and domination" (2006:9). I agree with this assessment and that there is more to it than ideology. Gender ideologies, and how they are enacted and enforced help explain *how* things are the way they are – in this case a gender division of labor that devalues women's work. But it doesn't explain *why* things are this way –

that feminized and devalued care work helps consolidate and reproduce masculine power and domination. The topic here is the current social organization of work, including green work, which is most accurately defined as capitalist patriarchy: a social organization of work and power that exploits and appropriates the women/other/nature. Making visible the material basis for this system of capitalist patriarchy – a system that is partially maintained by unjust, feminized and devalued care work – is necessary to understand why care work is fundamental to society and the functioning of the economy yet devalued and expected to be done for low pay or no pay by women.

Caregiving, Social Relations of Exploitation, and the Material Base

Some gender scholars emphasize that gendered and unequal social relations of appropriation and exploitation have a material basis (Acker 2005; Mies 1986; O'Brien 1981). I find this line of gender scholarship very helpful for explaining why we have a social organization of caregiving that is feminized and devalued. Gendered, social relations of appropriation and exploitation in which men appropriate women's productive and reproductive capacity is why we have unpaid and under-paid care work done by subordinated peoples, i.e. because dominant peoples benefit from it, materially.

"Green means money"

As the community ombudsmen pointed out, a sustainable green economy is not just about ideas. There is a material basis to the green economy. Environmental work in the household, like eco-consumption, drives the green economy. Recycling puts the onus for dealing with byproducts of industry on the household. Industries making money off of recycling efforts at the household

level, either thru access to post-consumer recyclable materials or save money for not being responsible for the life-cycle of their products.

Maria Mies (1986) argues that through the gendered, social organization of production and appropriation men appropriate the labor - or products of that labor - of subordinated people, including women. These relationships of domination are supported by social structures that facilitate exploitation via structural and direct violence, the patriarchal family, the state, and capitalism. Mies argues these social structures help maintain gender inequality where women are the producers as care-givers reproducers and maintaining life. Men are the appropriators, the owners of private property, and the only free laborers.

This understanding of the social organization of work can be applied to a gendered system of care work where women do the caretaking for others that taxes women's time and ability maintain her own livelihood while men appropriate the productive labor of women thru life sustaining caregiving to men and their children. Additionally, social structures within organizations and the capitalist economic system use race, class, and gender to justify ways of organizing the division of labor so that some have more access to material resources and to the means by which we provision and sustain life than others (Acker 2005). I would argue that this could be extended to environmental care work. Caregiving is currently organized such that women do the majority of it, are unpaid or underpaid for it, and are penalized for having care responsibilities in terms of wages, promotions, and pensions. Is feminized and devalued environmental care work a gendered organizing of the division of labor whereby some have more access to material resources than others like good green jobs vs. unpaid environmental work, for example? Of course, it is.

Defining Environmental Care Work

Based on the gender and care work literature, I define care work as work that is done to maintain and sustain the life, health and happiness of others including family members, friends, neighbors, and even strangers. Care work is emotional, relational, provides a widespread social good, but is feminized and devalued. There is an unjust division of labor that devalues care work because of commonsense assumptions about care work not being skilled work because it comes "naturally" to women. Gendered expectations about care work are enacted and enforced interpersonally and through institutions that employ discourses, controlling images, and ideologies to suppress the knowledge and experiences of subordinated people. This maintains a feminized and devalued care work that materially benefits some while restricting the opportunities of others.

Care work and unpaid environmental work is done to maintain and sustain the life, health and happiness of others including family members, friends, neighbors, and even strangers. Both are emotional, relational, and provide a widespread social good but is feminized and devalued. One does not have to look very far beyond a Western, middle-class existence, or very far into the past, to see the connection between maintaining environmental resources and sustaining the lives of those you feed, heal, keep warm or dry, bring water for, etc. The air we breathe, the water we drink, the food we eat, and the shelter we live in all originates from the natural environment. Taking care of environmental resources is taking care of our life's sustenance. While this is by no means a novel point, it does seem to me to be a fundamental link between environmental work and care work. I would argue that taking care of environmental resources is maintaining and sustaining the life, health and happiness of others including family members, friends, neighbors, and even strangers. Care work and environmental care work both have a spill over effect that reaches beyond the individuals giving and receiving care and has

widespread social benefits. Nancy Folbre (2006) argues that a defining aspect of care work is this public good component that improves productive human capabilities and the well-being of the whole community. I find it common sense that there is a community-wide benefit from a *community* cleanup, from a *community* garden, even from reducing the amount of waste going to the *community* landfill. Consider the example of the spill over effect of education:

> The many benefits of care to indirect beneficiaries make it arguably a public good. But how do the benefits of care diffuse to indirect beneficiaries? Education is an obvious example. Schooling makes people more productive, increasing their later productivity in a job, which benefits the owner and customers of the employing organization. (England 2005: 385)

I see mothers, teachers, or volunteers teaching children about environmental stewardship as providing a wider social good. If this environmental education creates people who strive to live their daily lives in a more environmental sustainable fashion - by growing gardens, eating local, reducing waste, commuting smarter and shorter distances, buying and using just enough - there would be society-wide benefit. If education is care work, then environmental education is environmental care work.

Environmental care work and the current incarnation of the green economy is replicating how things are: a gender division of labor under capitalist patriarchy with green jobs primarily conceptualized and fostered in industries that predominately employ men with unpaid or volunteer work for women. Environmental care work is unpaid, volunteer, "household" work that is feminized and devalued. The majority of studies on unpaid environmental work, also known as pro-environmental behaviors, consistently find that women engage in more environmentally-oriented behaviors than men (Blocker and Eckberg, 1997; Davidson and Freudenburg, 1996; McStay and Dunlap, 1983; Tindall, Davies, and Mauboules, 2003; Zelezny, Chua, and Aldrich, 2000; Strandbu and Skogen 2000). These behaviors include household

recycling, energy-saving strategies, eco-friendly transportation choices, sustainable household purchasing, community clean-ups, and organizing farm-to-school projects. All work. All unpaid. More of it done by women then men. Just like care work, this work is relegated to the private sphere, rather than seen as a public responsibility. Women get more household labor, but not green jobs in industries and occupations they gravitate towards. Thus, the green economy is replicating gender division of labor with green jobs for men, environmental care work for women. Environmental care work maps tightly onto theories about care work: it's feminized, devalued, yet maintains and sustains life and provides a social good. Based on the care work literature and pro-environmental behavior research discussed in the first chapter and revisited here in light of the previous data chapters, I define environmental care work as reproductive work that sustains and maintains the planet and all living here. It is work that occurs within relationships of care that support mutual well-being for humans and non-human nature.

What environmental work is not environmental care work?

Scholars who engage a feminist ethics of care in their discussion of care work have wrestled with the question: what is and what is not care work? Ultimately this line of inquiry points to a crucial aspect of environmental care work – that it is work done within relationships of care with, as LaDuke (1999) describes it, all our relations. Victoria Lawson (2007) describes the feminist ethics of care thusly:

> …a feminist ethic of care begins from the centrality of care work and care relations to our lives and societies. Care ethics begins with a social ontology of connection: foregrounding social relationships of mutuality and trust (rather than dependence). Care ethics understands all social relations as contextual, partial, attentive, responsive, and responsible…care ethics is concerned with structuring relationships in ways that enhance mutuality and well-being." (P.3)

Environmental work that is built around relationships of exploitation and destruction is not environmental care work. Work that comes into direct contact with the environment that is not mutually beneficial to both people and planet is not environmental care work. Mountaintop removal is work related to the environment, but it is not enhancing the well-being of people or the planet. Farming practices that include concentrated animal feeding operations (CAFOs) are not built upon relationship of care between human and animals. Raising animals in a way provides for their needs, provides a pleasant life, is environmental care work. Clear cutting a forest is not environmental care work. Sustainable forestry, a concept that evolves as we learn more about the functioning of healthy forest ecosystems, is environmental care work.

ECOFEMINISM, ENVIRONMENTAL ECONOMICS, AND ENVIRONMENTAL CARE WORK

Ecofeminism is a framework for explaining *how things are.* In the case of the green economy, that means a social organization of environmental work with good paying green jobs for men and unpaid environmental work for women - that is based on the domination and appropriation of women and linked to domination and appropriation of nature. Ecofeminism is also a framework for explaining *why the green economy is this way* – because it's still capitalist patriarchy dependent on women's unpaid reproductive labor, it's just dressed up in green clothes.

Environmental Economics Needs to Enrich its Notion of the Green Economy

There's a reason for this gender division of labor, green or otherwise. Ecofeminist theory argues that:

> …values, ideologies, institutions and economic systems that shape human-environmental relationships are themselves gendered…these factors enable sexism and environmental

> degradation in mutually reinforcing ways (Merchant 1980; Seager 1993) …[and] ties both gender discrimination and environmental degradation to a common hierarchical social structure that simultaneously devalues both women and nature. (Norgaard and York 2005:508).

Patriarchy marginalizes the work of reproduction of women, "others", and natural world. Labor is divided by gender. In other words, "women don't want to do that kind of work." The work done by some men is more highly respected and rewarded, i.e. "green means money". Women are held responsible for the work of nurturing/caretaking and this work is devalued, taken as low skilled and/or low value, and often totally invisible. Or, "the whole thing is a mirage" and "you don't need a bike lane if there is no daycare." This system is maintained by dominating women, "others", and natural world, i.e. "she carried a gun." Environmental care work relies on old care work tropes, like public vs. private realms and gender socialization explanations, or dominant frameworks, to make unseen the exploitative/dominating nature of this work.

Economic contributions of both women and nature are rendered invisible under capitalism, "which sees all work that does not produce profits and capital as non or unproductive work" (Mies and Shiva 1993:4). Here radical theories of the economy and nature that are relevant, but do not take into account women's work, align with ecofeminist theory echoing the assertion that capitalism depends on unaccounted and/or undervalued natural resources (see Milani 2000). I add environmental care work to this list of necessary but unaccounted for resources for the green economy. The fields of environmental and ecological economics should expand their understanding of the functioning of the green economy to include gender, if not because of this dissertation research, then because of the decades of research by feminist economists and eco-feminists discussed in Chapter 1.

Expanding mainstream notions of what the economy is beyond market-based, productive work, is not a new idea. Notably, feminist economic geographers JK Gibson-Graham have

argued for a wider view of economic activity beyond the limited capitalist-centric view. They argue that a common approach to rectifying the mis-valuation of care work is to add it as a new sector of the market-based capitalist economy and give it a monetary value. This obscures the:

> …possibility of non-capitalist forms of economy, including economies of generosity, non-profit businesses, worker collectives and alternative capitalist enterprises impelled by a social or environmental ethic." (Cameron and Gibson-Graham 2003:148)

A capitalist-centric solution to monetize environmental care work could obscure the possibility of a wider understanding of economic activity that, "gathers all practices to do with material survival onto one conceptual plane" and centered on the well-being of people and the planet (Gibson-Graham 2014:S149). The economic practices most intimately related to material survival, including environmental care work, are all but ignored by mainstream economics or counted in GDPs.

Future Research on Gender and the Green Economy

A careful accounting of the value of environmental care work for the green economy is needed. This re-valuation should acknowledge that economic activity does not need to have a monetary value and does not need to be oriented towards capitalism. And yet, to present evidence in a way that allows one to penetrate the minds of economists and policy makers it tshould not be entirely avoided. J.K. Gibson-Graham's concern is that when describing economic activities we jump too quickly towards explanations that fit with our existing, over-deterministic understanding of how capitalism works, missing the nuance. They call for "weak theory and thick descriptions" of economic activities outside capitalism. A study that examines the monetary value of environmental work and concludes that a proletarianization of environmental care work is happening could mistake, "complex relationships of kin and commitments of care" for "coldly

rational payment for services rendered" missing that kinship ties and relationships of care determine the who, what, and when behind cash transactions for labor (Gibson-Graham 2014:S148). Held (2002) reminds us that actual markets include exchanges between people who know each other and have social relationships. The value of the exchange is more than the market value of the activity or good traded. We might pay a friend more, or charge a friend less, than a stranger for a good or service because the valuation includes the friend's financial situation, something recently shared or given, a desire to be extra kind, because you've been friends since childhood, or because they are picking your children up from school every Wednesday.

Research question related to this re-valuation of environmental work include: What is the market-value of the time and effort spent at the household level to transform trash into raw material for the post-consumer recycled products? What is the reduction in long-term heath care costs for eating sustainably-grown local foods? What would a cap-n-trade or carbon credit look like if it was extended to individuals? Why are we banking on individuals making the right choices with regard to the environment, but paying companies to reduce environmental impacts? Why don't home gardeners or bicycle commuters get carbon credits in the form of tax breaks? Held (2002) argues:

> We can and should recognize many values, of things and activities, other than their market value, and we can demand that what people are paid more nearly reflect the other-than-market value of their work…For instance, people can come to value the environment, with its natural wonders and endangered species, and resist its value being subordinated to market values, and to commercial uses such as drilling for oil and cutting timber" (P. 21).

A valuation of environmental care work should be based not just on instrumental value or market value, but on intrinsic value understood within relationships of mutual well-being.

CONCLUSION

In this chapter, I argued that the green economy fails to recognize, much less reward, environmental care work. I suggest the green economy is still very much a capitalist patriarchy. It is therefore unsustainable. I draw upon the perspectives of those I interviewed, people working to grow the green economy, people who have a different social location than I, people who are considering U.S. green policy from the perspective of women. I use the insights from these interviews as guides that draw my attention to the most relevant aspects of the data I have collected and the ecofeminist and care work scholarship I reviewed. I weave the words of those I interviewed throughout this chapter.

Theories about care work helps us understand the social organization of work by gender. Environmental work is a concept that helps expose the gendered division of labor in the green economy. This division of labor in the green economy looks like care work in the regular old capitalist patriarchal economy materially (i.e. paid green jobs for men and necessary but unpaid eco work for women) and ideologically (i.e. environmental care work is feminized and devalued).

Based on the logic of materialist ecofeminist theory, I use the term environmental care work to help organize data on the green economy I examined throughout this dissertation to expose patterns of a gender division of environmental labor. Environmental care work is reproductive work that sustains and maintains the planet and all living here. It is work that occurs within relationships of care that support mutual well-being for humans and non-human nature.

Beginning from the standpoint of women helps reveal the gendered nature of green work, and common place assumptions or biases that are false. The biases in dominant frameworks for understanding the current constitution of the green economy include: 1) green jobs for men

without any conversation about what type of work works for women and 2) volunteer and household environmental care work for women that is devalued and should be carefully revalued – a site for future research. The ideological evidence lies in the fact that environmental care work provides social, economic and environmental benefits but is feminized and devalued. Eco-feminist theory helps us understand why things are this way. Capitalist patriarchy, green or otherwise, has a logic of domination and is a social organization of labor/resources that dominates and exploits women/others and nature.

Scholarship on gender and work helps explain why some work is considered work worth paying for, while other types of work are feminized and devalued. My observation is this system of paid green jobs for some and lots of unpaid environmental work for others looks like care work (feminized, other-ed, devalued) under other iterations of capitalism. The U.S. green economy is not "sustainable" because it is still based on devalued, feminized/other-ed environmental care work. Interlocking system of oppression and domination within patriarchy and capitalism are still in play.

A truly "sustainable" economy would be socially just, ecologically minded, and would include a complete re-valuation of environmental work based on a different set of underlying ideas and assumptions. In this dissertation, I have described systemic injustices, which are crippling the conception and actualization of a sustainable green economy in the U.S. People all over the world are already creating for themselves and others sustainable livelihoods, good green jobs for all, and growing the nascent sustainable green economy in a way that takes into account all forms of environmental work. Further research on the green economy should focus on this life-affirming environmental care work. Environmental work, really all work, needs to be re-valued based on ecological, just, and life-affirming principles in order to achieve

the urgently needed sustainable - ecologically, socially, and economically - green economy.

Methodological Appendix

The research question guiding this project is: What is the gender division of labor in the green economy? Three types of data were gathered and analyzed: 1) national level data on gender and the green economy, 2) U.S. policy related to the green economy and green jobs, and 3) a case study of the Green Impact Zone. I draw upon feminist and eco-feminist theory, research from the natural sciences on GHG emissions, and the gender and policy literature to formulate the questions guiding this dissertation and the analysis of the data I gathered. I found evidence for a gender disparity in green jobs in the U.S. Department of Labor data on the green economy by industry combined with the gender distribution of jobs by industry. Searching the Congressional Record and compiling statements from the Obama administration about the formulation of the ARRA help explain why this is the case. My experiences, interviews, and observations in the Green Impact Zone and that the U.S. Department of Labor's Women's Bureau helps explain what happens when policies are designed from the standpoint of men. I am interested in the way the green economy looks from the standpoint of women.

Throughout this project I attempted to keep in view the perspective of women. Standpoint epistemology begins with the understanding that knowledge is "partial, local, and historically specific (Haraway 1998; Harding 1998; Hartsock 1983)" (Sprague 2005:41). Your social location influences the way you view, access, and understand the world around you. This includes the researcher and the researched. Standpoint theory is used to "reveal systematic biases built into the way mainstream knowledge is constructed" (Sprague 2005:41). Beginning from the standpoint of women helped me see that the U.S. green economy is conceptualized, counted, and invested in ways that ignore women's paid and unpaid work.

This dissertation research project began with initial participant observation at the Green Impact Zone kick off event and interviews with employees at MARC. I noticed women participating in sustainability efforts in the Green Impact Zone, and in my daily life. I was surprised to learn that women were not enrolling in green job training programs in the Zone. This led me to examine national data on the green economy. I found that women are under-represented in green jobs, notably in industry sectors receiving the American Reinvestment and Recovery Act's fund earmarked to help grow a green economy and create green jobs. This is the problematic this project seeks to explain: why are women not flocking to job training programs in the Green Impact Zone, to paid work in the green economy, and yet women do much of what I saw as unpaid, environmental care work? I was interested in how some green jobs are designated as "paid" (e.g., conducting energy audits of homes) while other green jobs are defined as "community service" (e.g., planting community gardens) or relegated to the household (e.g., eco-friend consumption and conservation efforts) and the implications of this conceptualization for the gender composition of the green economy.

This patchwork of questions and ideas represents my academic background, my observations, my experiences, or in other words, my situated knowledge. This is something that became increasingly obvious while writing drafts of this dissertation and while doing research for the case study in the majority African-American Green Impact Zone in Kansas City, KS. As a white woman not from the neighborhoods in the Zone, I am an outsider, and easily seen as such. As a non-traditional graduate student with care giving responsibilities in the town I lived in 45 miles away, an ethnography of the neighborhood would not work. Two ways I attempted to tackle these limitations were to have conversations with key players involved in the day-to-day implementation of green job programs at the local and federal level and getting involved in

other researcher's projects on the Green Impact Zone. Identifying myself as a graduate student doing dissertation research on gender and the green economy was how I presented myself consistently.

During the first two years of the Green Impact Zone project, I volunteered my time on a research project about the sustainability efforts in the Green Impact Zone with professors and a few other PhD students at my university from Sociology and Public Administration. I took photos and followed along on two "walk-along" interviews with neighborhood leaders, transcribed and coded half a dozen more. I participated in research meetings at my university twice a month where methods and theoretical ideas were hashed out. I attended meetings at the Mid American Regional Council (MARC) and a nearby university where academics and MARC in house researchers divvied up the research spoils to be had off this unique experiment on sustainable development in an urban core needing revitalization. This was one way, as a graduate student, I could see what was happening in the Green Impact Zone. Another way I could "get in" was by focusing on those running the program. This entailed talking to people who work closely with the sustainability efforts in the Green Impact Zone and the surrounding area.

During the time period I was formulating this dissertation research, I was a trainee in the National Science Foundation interdisciplinary PhD program (IGERT) focused on climate change and policy. Taking classes with faculty and PhD students outside my discipline in the IGERT C-CHANGE Program (Climate Change, Humans, and Nature in the Global Environment) allowed me to engage research about gender and climate change from policy makers and scholars outside of my discipline. When women were mentioned in climate change studies, IPCC reports, or policy papers the discussion centered around vulnerabilities (see Nagel 2016; Dunlap and Brulle

2015; UN Women 2014). Women were positioned as victims of climate change. They were ones who had to walk farther to gather fuel wood or water (MADRE 2007). They were dying in greater numbers in climate-change accelerated "natural" disasters from Bangladesh to New Orleans (Cannon 2002). In industrialized countries, poor women were expected to bear the brunt of deadly heat waves and rising fuel costs.

In the wider literature on environmental degradation and human health harms, women and the children seemed to be the only one bearing the brunt of environmental toxins – lead paint, increased rates of asthmas, childhood and breast cancers (McLeod 2017; Cairns, Johnston and MacKendrick 2013; Laden and Hunter 1998). Even their breast milk is contaminated (Solomon and Weiss 2002). That there are higher levels of toxins in Inuit women's breast milk because persistent inorganic chemicals concentrate at the poles (see Dewailly et al 1992) isn't a "women's issue." Breast feeding mothers aren't living off their milk. Rather, it's an issue for everyone who survived infancy on their mother's milk – male and female.

Yet, in these studies and policy papers that highlighted women's victimhood, I saw agency. I saw women's environmental activism, women – literally -going the extra mile, women protecting life-sustaining household resources (Cannon 2002), women sheltering-in-place with those too young, or old, or poor to get out (Ransby 2006).

I also saw women's environmental knowledge in the studies and policy papers about women and the environment. MADRE reports "During water shortages, women's knowledge of managing and maintaining water sources becomes critical to communities' survival" (MADRE 2007). Dankleman asserts that several studies have described the unique roles women have in the management of the sustainable use of land, water, energy, food supply as well as protecting biodiversity (2002:23). Women's environmental knowledge is not some static, ancient, or

biological derived thing. Rather it is developed in the moment, on the ground, and through adapting to change.

The Women's Environment and Development Organization's states, "Women have been adapting to environmental change for generations, long before scientists gave it a name" and this is certainly true in Bangladesh (WEDO 2007). Women farmers in areas of Bangladesh experiencing increasing floods built 'floating gardens' on hyacinth rafts where they grow vegetables (Human Development Report 2007: 186). Women's indigenous knowledge and practice of environmental management is seen as crucial to the management of their lands. Their agency and ability are shown as they innovate and adapt (Dankleman 2002). Additionally, women's groups are important sites of adaptation and agency. Local indigenous women's organization in the Piura region of Peru that were formed to improve food security and nutrition have played crucial roles in rebuilding after the particularly bad El Niño season of 1997-8 (Reyes 2002).

Worsening health caused by long-term heat stress, malnutrition, and pollution is another expected impact of climate change that will directly impact indigenous women (Dankelman 2002). Women's role as caregivers and healers will increases their workload as women provide critical resources for maintaining health (Villagrasa 2002). This is a site of agency as well because, "Women's capacity to activate social networks for care giving, their stewardship of medicinal plants, their expertise in traditional medicine," will be increasingly important with climate change (MADRE 2007). This is not just an issue for indigenous women. Women in industrialized countries are also adapting, learning, changing based on a changing environment.

In my daily life, I saw environmentally conscious women doing what could think of to solve society-level GHG emissions problems with individual-level, household actions. Why, I

wondered, was the conversation about women and the environment focused on vulnerabilities and attitudes and not strengths and actions? Why was it so convenient to cast women as victims and housewives who can only do housewife things? And, where the heck were the green jobs for women?

Over the past decade, the framing of women as climate change victims has changed somewhat. While the conversation of "gender and climate change" still typically begins with women's greater vulnerability, it is now closely followed with evidence to convince one of women's efficacy in climate change mitigation and sustainable adaptation programs (UNFCC 2017; Nagel 2016). But vulnerability is still discussed as an individual level, and gendered, problem. Large social forces that are the root cause of environmental vulnerabilities are often left un-explored in conversation about gender and the environment. For example, poverty is widely viewed as the main driver of climate change vulnerability, a reducer of adaptive capacity. With more women living in poverty, climate vulnerability is cast as a gendered phenomenon. Meaning women are the victims because of their gender. Here the focus is erroneously on individual level vulnerabilities and not society-level drivers of poverty. Women are poorer than men because of the gendered social organization of work: gendered occupational segregation with men's jobs paying more, jobs typically done by women paid less, women who do the same job as men are paid less, increased care work expectation of women and the subsequent reduction in earnings for care givers over the life course. The gendered nature of the green economy is not about what individual women are or aren't doing. Rather choice and opportunity to participate the green economy is restricted, prescribed, social constructed along gendered lines. Before I began this dissertation research, while I was reading these studies about gender and climate change, I suspected that women were doing a ton of environmental work. It's just

not counted, and they aren't remunerated for it. It's not that women are victims. It's that the system is unjust. In this dissertation, I wanted to see what data and research addressed women were actually doing for the environment. Not what was being done to women by environmental change.

The logic behind how I organize the literatures I engage, and present the data I analyze, is based on conversations I had with academics, advisors, and others. I try to address the common questions about gender and the green economy that came from these conversations. The introductory chapter gives the background information necessary to understand what is to come. Then in Chapter 2 I address if there is gendered occupational segregation in the paid green economy using Department of Labor data. In Chapter 3 I use the gender and policy literature to guide an evaluation of the possible gender-blindness of U.S. green job policy. I address the question / critique that the green jobs and jobs programs spun out of the ARRA were focused on renewable energy because that is what was needed at the time: a transition to renewable energy because of climate change, the need for energy independence, and that it's not about giving jobs just to men. I argue there were equivalent greenhouse gas reductions to be had in other areas where women are better represented like sustainable agriculture or at the household level. In Chapter 4 I address the "yes but there were also green jobs training programs 'tailored' to women, so it's fine" critique. Based on what regional directors at the Department of Labor Women's Bureau, the Green Impact Zone program coordinators, and other studies on green job programs I show that these green job training programs did not work all that well for women. In the concluding chapter, I give a sociological explanation for this gendered, green economy. I use evidence from existing studies on unpaid environmental work and the care work literature to argue the unfair, gendered distribution of paid on unpaid work we are used to was unreflectively

carried over to the green economy resulting in paid green jobs in industries and occupations that predominantly employ men and unpaid environmental care work predominantly done by women. In the remainder of this appendix, I discuss how I collected and stored data, how I analyzed it, and I reflect more on how my own expectations and biases may have influenced my observations and interpretations.

In Chapter 2 I analyze federal labor force data to identify the gendered composition of jobs and industries designated "green" by the U.S. Department of Labor (DOL). To do this I downloaded two datasets from publically available U.S. government sources: Bureau of Labor Statistics (BLS) data on the green economy by industry and Department of Labor data on gender composition by industry. The Green Goods and Services (GGS) survey uses data from the Quarterly Census of Employment and Wages program and measures the percentage of a company's revenue or employment associated with green goods and services. Data on gender by industry came from the "Women in the Labor Force" dataset complied by the Bureau of Labor Statistics using the Current Population Survey. A more detailed explanation of how these datasets are gathered is included in Chapter 2 (pages 42 and 46). Both datasets are organized by similar industry sectors. My analysis comprised of building tables in Excel to compare the percentage of each industry sector considered "green" in the GGS survey data with percentage of women employed those same industry sectors from the Women in the Labor Force dataset. I am assuming companies with green goods and services are demographically similar to companies that are not deemed green. This assumption may be false. However, it is not possible to determine if the gender composition of green companies differs from non-green companies as there is no data available on green companies that includes demographic information about employees. This may have distorted my work because it is possible that companies with higher

percentages of green goods and services employ more women than non-green companies. Other studies that used similar methods to estimate the gender composition of green industries are discussed in Chapter 2.

In Chapter 3 I explore U.S. policies designed to grow the green economy and create green jobs and the green job training programs that this policy spawned. Two requirements of the IGERT for my dissertation research guided the formulation of this chapter: 1) a policy component - thus my investigation into federal green job discussions and the ARRA expenditures related to green jobs, and 2) a link to climate change - one reason I compare the potential greenhouse gas reduction of investments in gender imbalanced renewable energy field vs. local, sustainable agriculture which approaches occupational gender parity. To understand U.S. discussion of green jobs in the congress, I used the advanced search function on the web archive of the congressional record (available at https://www.congress.gov/congressional-record) to pull up every mention of the "green economy". I read each record that included any mention of the green economy and created a spreadsheet in Excel to record discussions of the green economy that included gender, energy, or climate change. I wanted to investigate a possible limitation of this research: an assumption that the recent efforts to grow the green economy are focused on energy simply because of concern about climate change, energy independence and the need to wean the U.S. off fossil fuels.

In 2013 I received the Summer Research Grant from Graduate Studies at the University of Kansas to fund a research trip to the Department of Labor, Women's Bureau to sit in on their annual meeting of Regional Directors running green jobs program targeting women. I took notes on my laptop. I pulled aspects of these notes I felt most salient to my research and used it to point me towards research on gender occupational segregation, studies on women who work in

male dominated industries, and studies published in the academic literature on U.S. green job programs. My assumption was there would be lots of success stories shared at this meeting. I was surprised there were not. Instead I heard more about the issues associated with trying to train women to join male-dominated industries. I was also interested in anomalous situations – i.e., women who do join the green economy. Attending the meeting at the Women's Bureau and reviewing existing studies on green job programs that targeted women helped me gain a limited view into what happens when women join the green economy. What became the focus of my literature review, based on what I heard at this meeting, may be distorted. It is possible the conversation turned towards the negative but that this was not representative of the majority of the green job training programs. However, I found that the women running the green jobs training program in the Green Impact Zone reported similar difficulties with enticing women to join training programs for green jobs in male-dominated industries.

Chapter 4 includes a case study of the Green Impact Zone in Kansas City, KS. The case study is comprised of 1) a review of MARC documents associated with the green job programs available on their website, 2) interviews with key stakeholders including the community ombudsmen running the job training programs, and 3) visits to the Green Impact Zone so I could get a sense of what was going first hand. MARC is a non-profit association comprised of Kansas City area city and county governments and acts as the metropolitan planning organization for the Kansas City region. MARC is the sole coordinating entity for the Green Impact Zone and the organization that connects individuals at the community level with the policy makers at the federal level.

The intention of including the Green Impact Zone case study is to find out how, in this one setting, federal policies to grow the green economy and create green jobs are understood and

implemented at the local level. And, what this looks like from the standpoint of women. The National Science Foundation Task Force on Qualitative Research (2003) report provides a concise definition of qualitative social science research along three lines:

- Qualitative research involves in-depth, case-oriented study of a relatively small number of cases, including the single-case study.
- Qualitative research seeks detailed knowledge of specific cases, often with the goal of finding out "how" things happen (or happened).
- Qualitative researchers' primary goal is to "make facts understandable,' and often place less emphasis on deriving inferences or predictions from cross-case patterns. (P.10)

The Green Impact Zone case study is intended to add context, to "flesh out" to the Department of Labor data and federal green jobs policy I examine in the preceding two chapters. In other words, the case study is not intended to be the data from which I am basing my conclusions about gender disparity in the green economy. It also is not intended to be the evidence I am using to connect the gendered nature of green work to extend our understanding of care work. The evidence that supports this conclusion is paid green jobs in industries that predominantly employ men (evident in the Department of Labor data) and unpaid environmental labor done more so by women than men (evident in the existing studies on environmental behaviors discussed in the Introduction).

The case study selection was based on convenience, access, and proximity. Interviews with Green Impact Zone ombudsmen brought to my attention competing explanations for women's lack of participation in green job training programs. Their interpretations of what "green means in the Zone" for sustainable development programs differed from my own. I was more focused on the environment. The community ombudsmen working with residents were more focused on bringing jobs and economic resources into the community. This showed me an

alternative interpretation of what green means. Based on my background and studies, I may have dismissed these interpretations. But coming from the perspective of the Green Impact Zone ombudsmen, their focus on the economic side made perfect sense.

This project produced data from interviews and a notes I took at meetings, events, and interviews. The interviews subjects agreed to be recorded. The digital recordings of interviews were transcribed by me. All interview data and notes were de-identified so no demographic information or names were recorded, and it does not pose a disclosure risk. Transcribed interview data were saved as Microsoft Word files.

Approval for human subjects' research was obtained through the University of Kansas' (KU) Institutional Review Board. All subjects were 18 years of age or older and without physical or mental health conditions that would inhibit their ability to participate in informed consent. All interview subjects were read the oral consent form prior to the start of the interview.

During this research project, the qualitative and quantitative data files produced were managed, processed, and stored in a secure environment (e.g., lockable personal computer systems with passwords, power surge protection, virus/malicious intruder protection). Copies of research files were stored on a portable, external hard drive.

This dissertation will be deposited with KU ScholarWorks, the institutional digital repository that archives research and historical items, which makes it available to a wider audience, and help assure long-term preservation.

References

Acker, Joan. 2005. *Class Questions, Feminist Answers*. Oxford, UK: Rowman & Littlefield.

-----. 1990. "Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations." *Gender & Society* 4(2):139-158.

Aguilera, Eduardo. 2015. "Greenhouse gas emissions from conventional and organic cropping systems in Spain. I. Herbaceous crops." *Agronomy for Sustainable Development* 35(2):713-724.

Anibarro, Brenda, Sharon Lerman and Kristyn Joy. 2011. "Women in the Green Economy: Voices from Southeast Seattle." Got Green Seattle. Retrieved October 30, 2012 (http://gotgreenseattle.org/wp-content/uploads/2012/09/GotGreen_WitGE_Report_092011.pdf).

Barnett Michael L and Robert M. Salomon. 2012. "Does it pay to be really good? Addressing the shape of the relationship between social and financial performance." *Strategic Management Journal* 33(11):1304–1320.

Bauhardt, Christine. 2014 "Solutions to the crisis? The Green New Deal, Degrowth, and the Solidarity Economy: Alternatives to the Capitalist Growth Economy from an Ecofeminist Economics Perspective." *Ecological Economics* 102:60-68.

Bauer, Martin W. 2000. "Analytic Approaches for Text, Image and Sound." Pp 131-151 in *Qualitative Researching with Text, Image and Sound: A Practical Handbook*, edited by Martin W. Bauer and George Gaskell. London: Sage Publications.

Bivens, Josh, John Irons and Ethan Pollack. 2009. "Green investment and the labor market: How many jobs could be generated and what type?" Issue Brief No. 253. Washington, DC: Economic Policy Institute. Retrieved September 2, 2012 (http:// http://www.epi.org/publication/ib253/).

Blair-Loy, Mary. 2003. *Competing Devotions: Career and Family Planning among Women Executives.* Cambridge, MA: Harvard University Press.

Bruckner T., I.A. Bashmakov, Y. Mulugetta, H. Chum, A. de la Vega Navarro, J. Edmonds, A. Faaij, B. Fungtammasan, A. Garg, E. Hertwich, D. Honnery, D. Infeld, M. Kainuma, S. Khennas, S. Kim, H. B. Nimir, K. Riahi, N. Strachan, R. Wiser, and X. Zhang. "2014: Energy Systems." In *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Edited by O. Edenhofer, R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx. Cambridge and New York: Cambridge University Press.

Bruntland Commissions (WCED). 1987. *Our Common Future*. Oxford: Oxford University Press.

Bryson, Lois, Kathleen McPhillips and Kathryn Robinson. 2001. "Turning Public Issues into Private Troubles: Lead Contamination, Domestic Labor, and the Exploitation of Women's Unpaid Labor in Australia." *Gender & Society* 15(5): 754–772.

Budig, Michelle and Paula England. 2001. "The Wage Penalty for Motherhood." *American Sociological Review* 66(2): 204-225.

Budig, Michelle and Melissa Hodges. 2010. "Differences in Disadvantage: Variation in the Motherhood Penalty across White Women's Earnings Distribution." *American Sociological Review* 75(5): 705-728.

Budig, Michelle J., Joya Misra and Irene Boeckmann. 2012. "The Motherhood Penalty in Cross-National Perspective: The Importance of Work-Family Policies and Cultural Attitudes." *Social Politics* 19(3):163-193.

Butler, Judith. 1990. *Gender Trouble: Feminism and the Subversion of Identity*. New York: Routledge.

Brown, Donald and Gordon McGrnahan. 2016. "The Urban Informal Economy, Local Inclusion and Achieving a Global Green Transformation." *Habitat International* 53: 97-105.

Cameron, Jenny and J. K. Gibson-Graham. 2003. "Feminising the Economy: Metaphors, Strategies, Politics" *Gender, Place & Culture* 10(2):145-157.

Campbell, Marie L. and Katherine Teghtsoonian. 2010. "Aid Effectiveness and Women's Empowerment: Practices of Governance in the Funding of International Development." *Signs* 36(1):177-202.

Cancian, Francesca M. and Stacey J. Oliker. 2000. *Caring and Gender*. Thousand Oaks, CA: Pine Forge Press.

Cannon, Terry. 2002. "Gender and Climate Hazards in Bangladesh." *Gender and Development.* 10(2):45-50.

Cairns, Kate, Josée Johnston and Norah MacKendrick. 2013. "Feeding the "Organic Child": Mothering through Ethical Consumption." *Journal of Consumer Culture* 13(2): 97–118.

Carlsson-Kanyama Annika and Alejandro D. González. 2009. "Potential contributions of food consumption patterns to climate change." *The American Journal of Clinical Nutrition* 89(5):1704S–1709S.

Casey, Emma and Lydia Martens. 2007. *Gender and Comsumption: Domestic Cultures and the Commercialisation of Everyday Life.* London and New Yok: Routledge.

Cela, Blerta, Irene Dankelman, Jeffery Stern. 2013. *Powerful Synergies: Gender Equality, Economic Development and Environmental Sustainability*. New York: United Nations Development Programme.

Cech, Erin A. 2015. "Mechanism or Myth? Family Plans and the Reproduction of Occupational Gender Segregation." *Gender & Society* 30(2): 265–288.

Chodorow, Nancy. 1989. *Feminism and Psychoanalytic Theory.* New Haven: Yale University Press.

Cleaver, Emanuel II. 2009. "Green Impact Zone." Under the Clock Blog, March 27, 2009. Retrieved October 10, 2009 (http://emanuelcleaver.blogspot.com/2009/03/green-impact-zone.html).

Cohen, Marjorie Griffin. 2017. "Using Information About Gender and Climate Change to Inform Green Economic Policies." Pp. 297-314 in *Climate Change and Gender in Rich Countries: Work, Public Policy and Action*, edited by Marjorie Griffin Cohen. Routledge: New York.

Collins, Patricia Hill. 1991. *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment.* New York: Routledge.

Coltrane, Scott. 2000. "Research on Household Labor: Modeling and Measuring the Social Embeddedness of Routine Family Work." *Journal of Marriage and the Family* 62:1208–1233.

Coltrane, Scott and Justin Galt. 2000. "The History of Men's Caring." Pp. 15-36 in *Care work: gender, class and the welfare state*, edited by Madonna Harrington Meyer. London: Routledge.

Connell, R.W. 1987. *Gender and Power*. Stanford, CA: Stanford University Press.

Correll, Shelly J., Stephen Benard and In Paik. 2007. "Getting a Job: Is There a Motherhood Penalty?" *American Journal of Sociology* 112(5): 1297-1339.

Cronin-Furman, Kate, Nimmi Gowrinathan and Rafia Zakaria. 2017. "Emissaries of Empowerment." Retrieved January 13, 2018 (https://www.ccny.cuny.edu/sites/default/files/Emissaries%20of%20Empowerment%202017.pdf).

Connolly, Cristina and H. Allen Klaiber. 2014. "Does Organic Command a Premium

When the Food is Already Local?" *American Journal of Agricultural Economics* 96(4):1102-1116.

Cox, Rosie. 2010. "Some Problems and Possibilities of Caring." *Ethics, Place & Environment: A Journal of Philosophy & Geography* 13(2):113-130.

Curry, Jane M. 2002. "Care Theory and ``Caring'' Systems of Agriculture." *Agriculture and Human Values* 19(2): 119–31.

Daly, Mary and Katherine Rake. 2003. *Gender and the Welfare State: Care, Work and Welfare in Europe and the USA*. Stafford, Australia: Polity Press.

Daniels, Arlene Kaplan. 1987. "Invisible Work." *Social Problems* 34(5):403-415.

Dankleman, Irene. 2002. "Climate Change: Learning from Gender Analysis and Women's Experiences of Organizing for Sustainable Development." *Gender and Development* 10(2):21-29.

Davies, Kate. 2015. *The Rise of the U.S. Environmental Health Movement*. Lanham MD: Rowman & Littlefield.

Davis, Shannon N. and Theodore N. Greenstein. 2013. "Why Study Housework? Cleaning as a Window Into Power in Couples." *Journal of Family Theory & Review* 5(2):63-71.

Denzin, Norman K.and Yvonna S.Lincoln. 2008. *Collecting and Interpreting Qualitative Materials*. Los Angeles, CA: Sage Publications.

Denzin, Norman K. 2001. *Interpretive Interactionism*. Thousand Oaks, CA: Sage Publications.

De Silva Dakshina G and Rachel A. J. Pownall. 2014. "Going green: Does It Depend on Education, Gender or Income?" *Applied Economics* 46(5): 573–586.

DeVault, Marjory. 1991. *Feeding the Family*. Chicago, IL: University of Chicago Press.

Dewailly, E., A. Nantel, S. Bruneau, C. Laliberté, L. Ferron and S.Gingras. 1992. "Breast milk contamination by PCDDs, PCDFs and PCBs in Arctic Québec: A preliminary assessment." *Chemosphere* 25(7):1245-1249.

Dill, Janette S., Kim Price-Glynn, and Carter Rakovski. 2016. "Does the 'Glass Escalator' Compensate for the Devaluation of Care Work Occupations? The Careers of Men in Low- and Middle-Skill Health Care Jobs." *Gender & Society* 30(2): 334–360.

D'Souza, Clare, Mehdi Taghian, Peter Lamb and Roman Pretiatko. 2007. "Green

Decisions: Demographics and Consumer Understanding of Environmental Labels." *International Journal of Consumer Studies* 31(4):371–376.

Duffy, Mignon. 2011. *Making care count: A century of gender, race, and paid care work*. New Brunswick, NJ: Rutgers University Press.

Dunlap, Riley E. and Robert J. Brulle. 2015. *Climate Change and Society: Sociological Perspectives*. New York: Oxford University Press.

Eccles Robert G, Ioannis Ioannou and George Serafeim. 2014. "The impact of corporate sustainability on organizational processes and performance." *Management Science* 60(11): 2835–2857.

Eisler Anna D., Eislera Hannes and Yoshidab Mitsuo. 2003. "Perception of Human Ecology: Cross-cultural and Gender Comparisons." *Journal of Environmental Psychology* 23:89–101.

Elliott, Robert J.R. and Joanne K. Lindley. 2017. "Environmental Jobs and Growth in the United States." *Ecological Economics* 132:232-244.

England, Paula. 2010. "The Gender Revolution: Uneven and Stalled." *Gender & Society* 24:149–66.

-----. 2005. "Emerging Theories of Care Work." *Annual Review of Sociology* 31: 381-399.

-----. 1992. *Comparable Worth: Theories and Evidence.* Hawthorne, NY: Aldine De Gruyter.

England, Paula and Nancy Folbre. 2005. "Gender and Economy." Pp. 627-649 in *The Handbook of Economic Sociology*, edited by Neil J. Smelser, and Richard Swedberg. Princeton, NJ: Princeton University Press

-----. 1999. "The cost of caring." *Annals of the American Academy of Political and Social Science* 561:39–51.

England, Paula, Michelle Budig and Nancy Folbre. 2002. "Wages of Virtue: The Relative Pay of Care Work." *Social Problems* 49(4):455-473.

Enloe, Cynthia. 2000. *Bananas, Beaches and Bases: Making Feminist Sense of International Politics*. 2nd Edition. Berkley, CA: University of California Press.

European Institute for Gender Equality 2012. "Review of the Implementation in the EU of Area K of the Beijing Platform for Action." Retrieved February 8, 2016 (http://eige.europa.eu/sites/default/files/documents/Gender-Equality-and-Climate-Change-Report.pdf).

Falxa-Raymond, Nancy, Erika Svendsen and Lindsay K. Campbell. 2013. “From Job Taining to Green Jobs: A Case Study of a Young Adult Employment Program Centered on Environmental Restoration in New York City, USA.” *Urban Forestry & Urban Greening* 12:287–295.

Fisher-Vanden K, Thorburn K. 2011. “Voluntary Corporate Environmental Initiatives and Shareholder Wealth.” *Journal of Environmental Economics and Management* 62(3): 430–445.

Fraser, Nancy. 2000. “After the Family Wage: A Postindustrial Thought Experiment.” Pp. 1-32 in *Gender and Citizenship in Transition*, edited by Barbara Hobson. New York: Routledge.

Flammer, Caroline. 2013. “Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors.” *Academy of Management Journal* 56(3): 758-782

Folbre, Nancy. 2006. “Measuring Care: Gender, Empowerment, and the Care Economy.” *Journal of Human Development* 7(2):183-199.

Gaard, Greta. 1997. "Towards a Queer Ecofeminism." *Hypatia* 12(1):114-137.

Gender and Climate Change Working Group. 2007. “About Gender and Climate Change” Gender and Climate Change Working Group, Retrieved December 1, 2007 (http://www.gencc.interconnection.org/about.htm).

Gibson-Graham, J.K. 2014. “Rethinking the Economy with Thick Description and Weak Theory.” *Current Anthropology* 55(59): S147-S153.

------. 2008. “Beyond Global vs. Local: Economic Politics Outside the Binary Frame.” Pp. 25-60 in *Geographies of Power: Placing Scale* edited by A. Herod and M. W. Wright, Oxford, UK: Blackwell Publishers Ltd.

Gimlin, Debra. 1996. “Pamela’s Place: Power and Negotiation in the Hair Salon.” *Gender and Society* 10(5):505-526.

Glass, Christy, Alison Cook and Alicia R. Ingersoll. 2016. “Do Women Leaders Promote Sustainability? Analyzing the Effect of Corporate Governance Composition on Environmental Performance.” *Business Strategy and the Environment* 25(7):495-511.

Glass, Jennifer, Sharon Sassler, Yael Levitte and Katherine Michelmore. 2013. “What's So Special About STEM? A Comparison of Women's Retention in STEM and Professional Occupations.” *Social Forces* 92(2):723-756.

Glenn, Evelyn Nakano. 1992. “From Servitude to Service Work: Historical Continuities

in the Racial Division of Paid Reproductive Labor." *Signs: Journal of Women in Culture and Society* 18(1):1-43.

Godfray, H. Charles J., John R. Beddington, Ian R. Crute, Lawrence Haddad, David Lawrence, James F. Muir, Jules Pretty, Sherman Robinson, Sandy M. Thomas and Camilla Toulmin. 2010. "Food Security: The Challenge of Feeding 9 Billion People." *Science* 327(5967):812–818.

Green Impact Zone. 2014a. "Green Impact Zone Infographic," Retrieved April 22, 2018 (http://www.greenimpactzone.org/images/infographic.pdf).

-----. 2014b. "About The Green Impact Zone." Retrieved April 22, 2018 (http://www.greenimpactzone.org/#).

Gregson, Nicky, Mike Crang, Julie Botticello, Melania Calestani and Anna Krzywoszynska. 2016. "Doing the 'dirty work' of the green economy: Resource recovery and migrant labour in the EU." *European Urban and Regional Studies* 23(4):541–555.

Harbers, Hans. 2010. "Animal farm love stories: About care and economy." Pp. 141-170 in *Care in Practice: On Tinkering in Clinics, Homes and Farms*, edited by Annemarie Mol, Ingunn Moser, and Jeannette Pols. Bielefeld, Germany: Transcript Verlag.

Hadley, John. 2015. *Animal Property Rights: A Theory of Habitat Rights for Wild Animals.* New York: Lexington Books.

Harding, Sandra. 1986. *The Science Question in Feminism*. Ithaca, NY: Cornell University Press

Harper-Anderson, Elsie. 2012. "Exploring What Greening the Economy Means for African American Workers, Entrepreneurs, and Communities." *Economic Development Quarterly* 26(2):162-177.

Hartmann, Heidi. 1996. "The Unhappy Marriage of Marxism and Feminism: Towards a More Progressive Union." Pp. 165-196 in *Radical Political Economy: Explorations in Alterative Economic Analysis,* edited by Victor D. Lippit. New York: M. E. Sharpe Inc.

Hegewisch, Ariane, Jeff Hayes, Tonia Bui and Anlan Zhange. 2013. "Quality Employment for Women in the Green Economy: Industry, Occupation, and State-By-State Estimates." Institute for Women's Policy Research, Washington, D.C.

Held, Virginia. 2002. "Care and the Extension of Markets." *Hypatia* 17(2):19-33.

Herd, Pamela and Madonna Herrington Meyer. 2002. "Care Work: Invisible Civic Engagement." *Gender and Society* 16(5): 665-688.

Hobson, Barbara, Jane Lewis and Birte Siim. 2004. *Contested Concepts in Gender and*

Social Policy. North Hampton, MA: Edward Elgar Press.

Hochschild, Arlie. 1989. *The Second Shift: Working Parents and the Revolution at Home*. New York: Viking.

Huang, Shihping Kevin. 2013. "The Impact of CEO Characteristics on Corporate Sustainable Development." *Corporate Social Responsibility and Environmental Management* 20(4): 234–244.

Humes, Karen R., Nicholas A. Jones and Roberto R. Ramirez. 2011. *2010 Census Briefs: Overview of Race and Hispanic Origin.* U.S. Bureau of the Census. Washington, DC: U.S. Department of Commerce. Retrieved December 8, 2014 (http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf).

Hunter, Lori M., Alison Hatch and Aaron Johnson. 2004. "Cross-National Gender Variation in Environmental Behaviors." *Social Science Quarterly* 85:677-694.

Ingraham, Chrys. 2009. *White Weddings: Romancing Heterosexuality in Popular Culture.* Second Edition. New York: Routledge.

International Labor Organization (ILO). 2011. "Towards a Greener Economy: The Social Dimensions." Retrieved March 13, 2015 (http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_168163.pdf).

Intergovernmental Panel on Climate Change (IPCC). 2014. "Summary for Policymakers." In *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* edited by Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx., United Kingdom and New York: Cambridge University Press.

Jarosz, Lucy. 2011. "Nourishing Women: Toward a Feminist Political Ecology of Community Supported Agriculture in the United States." *Gender, Place, and Culture* 18:307–326.

Jones, Van. 2008. *The Green Collar Economy: The Green Collar Economy: How One Solution Can Fix Our Two Biggest Problems*. HarperOne: New York

Judkins, Brooke and Lois Presser. 2008. "Division of Eco-Friendly Household Labor and the Martial Relationship." *Journal of Social and Personal Relationship* 25(6):923-941.

Kandiyoti, Deniz. 1988. "Bargaining with Patriarchy." *Gender and Society* 2(3):274-290.

Kassinis, George, Alexia Panayiotou, Andreas Dimou, and Georgia Katsifaraki. 2016.

"Gender and Environmental Sustainability: A Longitudinal Study." *Corporate Social Responsibility and Environmental Management* 23(6): 399-412.

Kelly, Suzanne. 2015. *Greening Death: Reclaiming Burial Practices and Restoring Out Tie to the Earth.* Lanham MD: Rowman & Littlefield.

Kennedy, Emily Huddart and Liz Dzialo. 2015. "Locating Gender in Environmental Sociology." *Sociology Compass* 9(10):920-929.

Kirwan Institute for the Study of Race and Ethnicity. 2010. "Race Recovery Index: Is Stimulus Helping Communities in Crisis?" Retrieved September 3, 2012 (http://kirwaninstitute.osu.edu/docs/racerecoveryindex/race-recovery_oct2010.pdf).

Lawson, Victoria. 2007. "Geographies of Care and Responsibility." *Annals of the Association of American Geographers* 97(1):1-11.

Laden Francine and David J. Hunter. 1998. "Environmental risk factors and female breast cancer." *Annual Review of Public Health* 19:101-123.

LaDuke, Winona. 1999. *All Our Relations: Native Struggles for Land and Life.* Cambridge, MA: South End Press.

Lan, Pei-Chia. 2006. *Global Cinderellas: Migrant Domestics and Newly Rich Employers in Taiwan.* Durham, NC: Duke University Press.

Lee Badgett, M.V., and Nancy Folbre. 1999. "Assigning Care: Gender Norms and Economic Outcomes." *International Labour Review* 138(3):311–326.

Levanon, Asaf and David B. Grusky. 2016. "The Persistence of Extreme Gender Segregation in the Twenty-first Century." *American Journal of Sociology* 122(2):573-619.

MADRE. 2007. "A Women's Right-base Approach to Climate Change: What Do Women's Human Rights have to do with Global Warming?" New York, NY: MADRE, Retrieved November 20, 2007 (http://www.madre.org/articles/int/climatechange.html).

McEwan, Cheryl, and Michael K. Goodman. 2010. "Place Geography and the Ethics of Care: Introductory Remarks on the Geographies of Ethics, Responsibility and Care." *Ethics, Place & Environment* 13 (2): 103–12.

MacGregor, Sherilyn. 2014. "Only Resist: Feminist Ecological Citizenship and the Post-politics of Climate Change." *Hypatia* 29(3): 617–633.

MacKendrick, Norah. 2014. "More Work for Mother: Chemical Body Burdens as a Maternal Responsibility." *Gender and Society* 28(5): 705–728.

MacKinnnon, Catherine. 1989. “Sexuality.” Pp. 475-488 in *Feminist Theory: A Reader*, edited by Wendy K. Kolmar and Frances Bartkowski. New York: McGraw-Hill.

Martin, Patricia Yancey. 2003. “’Said and Done’ versus ‘Saying and Doing’: Gendering Practices, Doing Gender at Work.” *Gender and Society* 17(3):342-366.

Mason, C. Nicole. 2009. “Job Creation and Employment: A Four-Part Report Series on the American Recovery and Reinvestment Act of 2009 and its Impact on Women of Color, Their Families and Communities.” Women of Color Policy Network. Retrieved October 30, 2012 (http://wagner.nyu.edu/wocpn/reports/Race_Gender_and_the_Recession_Job_Creation).

McLeod, Dorothy L. 2017. “Children's Exposure to Environmental Toxins: Socioeconomic Factors and Subsequent Effects on Mental Health and Function.” Center for the Human Rights of Children. Retrieved April 28, 2018 (https://ecommons.luc.edu/chrc/13/).

Mellor, Mary. 1992. “Green politics: Ecofeminist, Ecofeminine or Ecomasculine?” *Environmental Politics* 1(2):229-251.

Merchant, Carolyn. 1980. *The Death of Nature*. New York: Harper and Row.

Mies, Maria. 1986. *Patriarchy and Accumulation on a World Scale: Women in the International Division of Labor*. London: Zed Books.

Mies, Maria and Vandana Shiva. 1993. *Ecofeminism*. London: Zed.

Mid-American Regional Council. 2011. “The Green Impact Zone of Kansas City, MO: Progress Report February 12-March 28, 2011.” Retrieved April 10, 2011 (http://www.greenimpactzone.org/assets/3-28-11-progress-report.pdf).

------. 2009a. “Long-Term Sustainability Strategy.” Retrieved December 2, 2009 (http://www.greenimpactzone.org/Plan/sustainabilitystrategy.aspx).

------. 2009a. “About the Green Impact Zone.” Retrieved December 2, 2009 (http://www.greenimpactzone.org/About/index.aspx).

------. 2009c. “The Green Impact Zone Neighborhood Vision.” Retrieved December 2, 2009 (http://www.greenimpactzone.org/Plan/vision.aspx).

McCann, Eugene J. 2003. “Framing Space and Time in the City: Urban Policy and the Politics of Spatial and Temporal Scale.” *Journal of Urban Affairs* 25(2):159-178.

------. 2002. “The Cultural Politics of Local Economic Development: Meaning-making, Place-making, and the Urban Policy Process.” *Geoforum* 33:385-398.

Milani, Brian. 2000. *Designing the Green Economy: The Postindustrial Alternative to Corporate Globalization*. New York: Rowman & Littlefield.

Miller, Gloria. 2004. "Frontier Masculinity in the Oil Industry: The Experience of Women Engineers." *Gender, Work and Organization* 11(1):47-73.

Mohanty, Chandra Talpade. 2006. "US Empire and the Project of Women's Studies: Stories of Citizenship, Complicity and Dissent." *Gender, Place and Culture* 13(1):7-20.

Mundaca, Luis and Jessika Luth Richter. 2015. "Assessing 'Green Energy Economy' Stimulus Packages: Evidence from the U.S. Programs Targeting Renewable Energy." *Renewable and Sustainable Energy Reviews* 42:1174–1186.

Nagel, Joane. 2016. *Gender and Climate Change: Impacts, Science, Policy*. New York: Routledge.

Nakano Glen, Evelyn. 1992. "From Servitude to Service Work: Historical Continuities in the Racial Division of Paid Reproductive Labor." *Signs* 18(1):1-43.

National Science Foundation. 2017. "Women, Minorities, and Persons with Disabilities in Science and Engineering." National Center for Science and Engineering Statistics Directorate for Social, Behavioral and Economic Sciences. Retrieved April 19, 2017 (https://www.nsf.gov/statistics/2017/nsf17310/static/downloads/nsf17310-digest.pdf).

National Science Foundation. 2004. "Workshop on Scientific Foundations of Qualitative Research." Report prepared by Charles C. Ragin, Joane Nagel, and Patricia White. July 11-12, 2003. Arlington,Virginia.

Nicholson, Linda. 1995. "Interpreting Gender." Pp. 39-67 in *Social Postmodernism: Beyond Identity Politics*, edited by Linda Nicholson and Steven Seidman. Cambridge: Cambridge University Press.

Norgaard, Kari. 1996. "Explorations of Nature and Culture: Ecological Feminism and the Enrichment of Human Ecology." *Advances in Human Ecology* 5(2):213-259.

Norgaard, Kari and Richard York. 2005. "Gender Equality and State Environmentalism." *Gender and Society* 19(4):506-522.

Nisbet, Matthew C. 2009. "Communicating Climate Change: Why Frames Matter for Public Engagement." *Environment* 52(2):12-23.

O'Brien, Mary. 1981. *The Politics of Reproduction.* New York: HarperCollins.

Orden and Zulauf. 2015. "Political Economy of the 2014 Farm Bill." *American Journal of Agricultural Economics* 97(5):1298–1311.

Ortner, Sherry. 1972. “Is Female to Male as Nature Is to Culture?” *Feminist Studies* 1(2):5-31.

Parfitt, Julian, Mark Barthel and Sarah Macnaughton. 2010. “Food Waste Within Food Supply Chains: Quantification and Potential for Change to 2050.” *Philosophical Transactions of the Royal Society B* 365(1554):3065-3081.

Paustian, Keith, Johannes Lehmann, Stephen Ogle, David Reay, G. Philip Robertson & Pete Smith. 2016. “Climate-smart Soils.” *Nature* 532:49-57.

Pavlović, Nevena. 2017. “Women in the Green Economy.” *Journal of Women's Entrepreneurship and Education* 1-2:97-110.

Pearce, David. 2002. “An Intellectual History of Environmental Economics.” *Annual Review of Energy and the Environment* 27:57-81.

Pietilä, Hilkka. 1997. “The triangle of the human economy: household - cultivation – industrial production An attempt at making visible the human economy in toto.” *Ecological Economics* 20:113-127.

Pinto, Diego Costa, Márcia M. Herter, Patricia Rossi and Adilson Borges. 2014. “Going Green for Self or for Others? Gender and Identity Salience Effects on Sustainable Consumption.” *International Journal of Consumer Studies* 38(5):540-549.

Pellow, David and Hollie Brehm. 2013. “An Environmental Sociology for the Twenty-first Century.” *Annual Review of Sociology* 39: 229–250.

Pew Charitable Trusts. 2009. “The clean energy economy: Repowering jobs businesses and investment across America.” Retrieved September 3, 2012 (http://www.pewenvironment.org/news-room/compilations/the-clean-energy-economy-repowering-jobs-businesses-and-investments-across-america-8589943002).

Plumwood, Val. 1993. *Feminism and the Mastery of Nature*. New York: Routledge.

Pilgeram, Ryanne and Bryan Amos. 2015. “Beyond ‘Inherit It or Marry It’: Exploring How Women Engaged in Sustainable Agriculture Access Farmland.” *Rural Sociology* 80(1):16-38.

Puig de la Bellacasa, María. 2010. “Ethical doings in naturecultures.” *Ethics, Place & Environment* 13 (2):151-169.

Ransby, Barbara. 2006. “Katrina, Black Women, and the Deadly Discourse on Black Povery in America.” *Du Bois Review: Social Science Research on Race* 3(1):215-222

Redclift, Michael and Graham Woodgate. 1997. “Sustainability and Social

Construction." Pp.55-70 in *The International Handbook of Environmental Sociology*, edited by Michael Redclift and Graham Woodgate. Northhampton, MA: Edward Elgar Publishing, Inc.

Reed, Maureen G. and Bruce Mitchell. 2003. "Gendering environmental geography." *The Canadian Geographer* 47(3):318–337.

Reskin, Barbara and Patricia Roos. 1987. "Statue Hierarchies and Sex Segregation." In *Feminist Challenges*, edited by Christine Bose and Glenna Spitze. Albany: SUNY Press.

Reyes, Rosa Rivero. 2002. "Gendering Responses to El Nino in Rural Peru." *Gender and Development.* 10(2):60-69.

Rich, Adrienne. 1980. "Compulsory Heterosexuality and Lesbian Existence." *Signs* 5(4):631-660.

Ridgeway, Cecilia. 2011. *Framed by Gender: How Gender Inequality Persists in the Modern World*. New York: Oxford University Press.

Roberts, James A. 1996. "Will the Real Socially Responsible Consumer Please Step Forward?" *Business Horizons* 39(1):79–83.

Robeyns, Ingrid. 2008. "Ideal Theory in Theory and Practice." *Social Theory and Practice* 34(3):341-362.

Rubin, Gayle S. 1993. "Thinking Sex: Notes for a Radical Theory of the Politics of Sexuality." Pp. 3-72 in *American Feminist Thought at Century's End: A Reader*, edited by Linda S. Kauffman. Hoboken, NJ: Wiley-Blackwell.

Ruddick, Sara. 1980. "Maternal Thinking." *Feminist Studies* 6(2):342-67.

Rysavy, Tracy Fernandez. 2007. "Our Interview With Van Jones." Green American Magazine. Retrieved March 15, 2018 (https://www.greenamerica.org/greed-green/our-interview-van-jones).

Sachs, Wolfgang. 1997. "Sustainable Development." Pp. 71-82 in *The International Handbook of Environmental Sociology*, edited by Michael Redclift and Graham Woodgate. Northampton, MA: Edward Elgar Publishing, Inc.

Sallah, Ariel. 2012. "Green Economy of Green Utopia?" Rio+20 and the Reproductive Labor Class." *Journal of World-Systems Research* 18(2):141-145.

Sayer Liana C. 2005. "Gender, Time, and Inequality: Trends in Women's and Men's Paid Work, Unpaid Work, and Free Time." *Social Forces* 84:285-303.

Sayer, Liana, Suzanne M. Bianchi and John P. Robinson. 2004. "Are Parents Investing

Less in Children? Trends in Mothers' and Fathers' Time with Children." *American Journal of Sociology* 110(1):1-43.

Schultz, Irmgard. 1993. "Women and Waste." *Capitalism, Nature, Socialism* 4(2):51-63.

Scott, Joan. 1986. "Gender: A Useful Category of Historical Analysis." *American Historical Review* 91:1053-1075.

Seager, Joni. 1993. *Earth Follies: Coming to Feminist Terms with the Global Environmental Crisis.* New York: Routledge.

Sessions, Robert Alan. 1997. "Ecofeminism and Work." In *Ecofeminism: Women, Culture, Nature*, edited by Karen J. Warren. Bloomington, IN: Indiana University Press.

Sewell, Sandra, and Nonie Harris. 2016. "Exploring Women's Care for the Local Environment: A Community-Based Feminist Participatory Research Approach." *Community Development Journal* 51(2):195-211.

Sharma, Ursula and Paula Black. 2001. "Lock Good, Feel Better: Beauty Therapy as Emotional Labor." *Sociology* 35(4):913-931.

Shire, Karen. 2007. "Gender and the Conceptualization of the Knowledge Economy in Comparison." In *Gendering the Knowledge Economy: Comparative Perspectives*, edited by Sylvia Walby, Heidi Gottfried, Karin Gottschall, and Mari Osawa. New York: Palgrave Macmillan.

Shutkin, William A. 2005. "Oakland's Fruitvale Transit Village: Building and Environmentally Sound Vehicle for Neighborhood Revitalization." Pp. 73-86 in *Environmental Sociology: From Analysis to Action*, edited by Leslie King and Deborah McCarthy. Lanham, MD: Rowman & Littlefield Publishers, Inc.

Smith, Dorothy E. 1991. *The Conceptual Practices of Power: A Feminist Sociology of Knowledge*. Toronto: University of Toronto Press.

Smith P., M. Bustamante, H. Ahammad, H. Clark, H. Dong, E.A. Elsiddig, H. Haberl, R. Harper, J. House, M. Jafari, O. Masera, C. Mbow, N.H. Ravindranath, C.W. Rice, C. Robledo Abad, A. Romanovskaya, F. Sperling, and F. Tubiello. 2014. "Agriculture, Forestry and Other Land Use (AFOLU)." In *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by O. Edenhofer, R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx. Cambridge and New York: Cambridge University Press.

Society of Women Engineers. 2007. "Where are all the women going?" Retrieved

February 2010 (http://www.swe.org/stellent/idcplg?IdcService=SS_GET_PAGE&ssDocName=swe_007553&ssSourceNodeId=110).

Solis, Hilda. 2009. "The White House Blog: Green Jobs Grants, Seizing the Opportunity of a Clean Energy Economy." Retrieved November 9, 2010 (http://www.whitehouse.gov/blog/2009/11/18/green-jobs-grants).

Speth, James Gustave. 2008. *The Bridge at the Edge of the World*. New Haven, CT:Yale University Press.

Sprague, Joey. 2016. *Feminist Methodologies for Critical Researchers: Bridging Differences, 2nd Edition*. Lanham, MD: Rowman & Litterfield.

Sprague, Joey, and Diane Kobrynowicz. 2004. "A Feminist Epistemology." In *Feminist Perspectives on Social Research,* edited by S. N. Hesse-Biber and M. L. Yaiser. New York and Oxford: Oxford University Press.

Straughan, Robert D. and James A. Roberts. 1999. "Environmental Segmentation Alternatives: A Look at Green Consumer Behaviour in the New Millennium. *Journal of Consumer Marketing* 16(6):558–575.

Stock, Paul. 2007. ''Good Farmers' as Reflexive Producers: an Examination of Family Organic Farmers in the US Midwest." *Sociologia Ruralis* 47: 83-102.

Sumner, Jennifer and Sophie Llewelyn. 2011. "Organic Solutions? Gender and Organic Farming in the Age of Industrial Agriculture." *Capitalism Nature Socialism* 22:100–118.

Trabish, Herman K. 2013. "Women in the wind industry." Greentech Media. Retrieved March 30, 2017 (https://www.greentechmedia.com/articles/read/why-does-the-wind-industry-need-women#gs.4V=BE68).

Tach, Laura M. 2009. "More than Bricks and Mortar: Neighborhood Frames, Social Processes, and the Mixed-Income Redevelopment of a Public Housing Project." *City and Community* 8(3):269-299.

Tarrow, Sidney. 1999. "Mentalities, Political Cultures, and Collective Action Frames: Constructing Meaning Through Action." Pp. 174-202 in *Frontiers in Social Movement Theory,* edited by A. Morris and C. Mueller. New Haven, CT: Yale University Press.

Treas, Judith and Sonja Drobnič. 2010. *Dividing the domestic: Women, men and household work in cross-national perspective*. Stanford, CA: Stanford University Press.

Tindall, D.B., Scott Davies, and Céline Mauboulès. 2003. "Activism and Conservation Behavior in an Environmental Movement: The Contradictory Effects of Gender." *Society & Natural Resources* 16(10): 909–932.

Trauger, Amy. 2004. "'Because They Can Do the Work': Women Farmers in Sustainable Agriculture in Pennsylvania, USA." *Gender, Place, and Culture* 11:289–307.

Tubiello, Francesco N., Mirella Salvatore, Alessandro F. Ferrara, Jo House, Sandro Federici, Simone Rossi, Riccardo Biancalani, Rocio D. Condor Golec, Heather Jacobs, Alessandro Flammini, Paolo Prosperi, Paola Cardenas-Galindo, Josef Schmidhuber, Maria J. Sanz Sanchez, Nalin Srivastava, and Pete Smith. 2015. "The contribution of agriculture, forestry and other land use activities to global warming, 1990–2012." *Global Change Biology* 21(7):2655–2660.

Tubiello Francesco N., Mirella Salvatore, Simone Rossi, Alessandro F. Ferrara, Nuala Fitton, and Pete Smith. 2013. "The FAOSTAT Database of Greenhouse Gas Emissions from Agriculture." *Environmental Research Letters* 8(1):1–11.

Twigg, Julia. 2000. "Carework as a Form of Bodywork." *Ageing and Society* 20(4):389-411.

The White House. 2010. "Energy & Environment." Retrieved November 12, 2010 (http://www.whitehouse.gov/issues/energy-and-environment).

Union of Concerned Scientists. N.d. "The Farm Bill: An Opportunity to Change Our Food System for the Better." Retrieved April 21, 2018 (https://www.ucsusa.org/food_and_agriculture/solutions/strengthen-healthy-farm-policy/the-farm-bill.html#.WuYjFy-ZOu4)

United Nations Framework on Climate Change. 2018. "Gender and Climate Change." Gender Team, Retrieved January 12, 2018 (http://unfccc.int/gender_and_climate_change/items/7516.php).

United Nations (UN Women). 2014. "The World Survey on the Role of Women in Development 2014: Gender equality and sustainable development." Retrieved Novemeber 19, 2017 (http://www.unwomen.org/en/digital-library/publications/2014/10/world-survey-2014).

U.S. Department of Labor, Bureau of Labor Statistics. N.d. "Green Goods and Services (GGS): For Your Information". Retrieved May 15, 2018 (https://www.bls.gov/ggs/#news).

------. 2016. "American Time Use Survey." Retrieved March 13, 2018 (https://www.bls.gov/tus/charts/household.htm).

------. 2013a. "GGS FAQ" Retrieved May 20, 2018 (https://www.bls.gov/ggs/ggsfaq.htm#4)

------. 2013b. "Women in the Labor Force: A Databook." Retrieved March 8, 2018

(https://www.bls.gov/opub/reports/womens-databook/archive/womenlaborforce_2012.pdf).

------. 2013c. "New Release: Employment in Green Goods and Services – 2011." Retrieved November 7, 2014 (http://www.bls.gov/news.release/pdf/ggqcew.pdf).

------. 2013d. "Labor Force Statistics from the Current Population. Household Data Annual Averages. 18. Employed persons by detailed industry, sex, race, and Hispanic or Latino ethnicity." Retrieved December 11, 2014 (http://www.bls.gov/cps/cpsaat18.htm).

------. 2010. "Measuring the Green Economy." Retrieved November 11, 2010 (http://www.bls.gov/green/).

------. 2007. "Occupational employment projections to 2016." Retrieved September 9, 2012 (http://www.bls.gov/opub/mlr/2007/11/art5full.pdf).

U.S. Department of Labor. Women's Bureau. 2012. "Green Jobs for Women." Retrieved September 1, 2012 (http://www.dol.gov/wb/media/green.htm#.UHg_pkLrClI).

-----. N.d. "Our History: An Overview 1920-2012." Retrieved March 13, 2018 (https://www.dol.gov/wb/info_about_wb/interwb.htm).

U.S. Energy Information Administration. 2017. "US Energy Facts Explained: Consumption & Production." Retrieved March 10, 2018 (https://www.eia.gov/energyexplained/?page=us_energy_home).

U.S. Environmental Protection Agency. 2011. "Draft: Global Anthropogenic Non-CO2 Greenhouse Gas Emissions: 1990—2030." Retrieved March 1, 2018 (internal-pdf://US-EPA_NonCO2_ Projections_2011_draft-2650857473 / US-EPA_NonCO2_Projections_2011_ draft.pdf.)

Vargas, Virginia. 2003. "Feminism, Globalization, and the Global Justice and Solidarity Movement." *Cultural Studies* 17(6):905-920.

Venkat, Kumar. 2012. "Comparison of Twelve Organic and Conventional Farming Systems: A Life Cycle Greenhouse Gas Emissions Perspective." *Journal of Sustainable Agriculture* 36(6):620-649.

Vermeulen, Sonja J., Bruce M. Campbell and John S. I. Ingram. 2012. "Climate Change and Food Systems." *Annual Review of Environment and* Resources 37:195-222.

Vinz, Dagmar. 2009. "Gender and Sustainable Consumption: A German Environmental Perspective." *European Journal of Women's Studies* 16:159-179.

Walsh, Jason, Josh Bivens and Ethan Pollack. 2011. "Rebuilding green: the American

recovery and reinvestment act and the green economy." BlueGreen Alliance and Econmic Policy Institute. Retrieved April 17, 2018. (https://www.bluegreenalliance.org/resources/rebuilding-green-the-american-recovery-and-reinvestment-act-and-the-green-economy/).

Wang, Sumei. 2016. "Green Practices are Gendered: Exploring Gender Inequality Caused by Sustainable Consumption Policies in Taiwan." *Energy Research & Social Science* 18:88–95.

Warren, Carol A.B. and Tracy Xavia Karner. 2010. *Discovering Qualitative Methods: Field Research, Interviews, and Analysis.* New York: Oxford University Press.

Warren, Karen. 1992. "A Feminist Philosophical Perspective on Ecofeminst Spiritualties." In *Ecofeminism and the Scared,* edited by Carol Adams. New York: Orbis Books.

Weedon, Chris. 1997. *Feminist Practice and Poststructural Theory*. Oxford, UK: Blackwell.

Wells, Betty L., and Shelly Gradwell. 2001. "Gender and Resource Management: Community Supported Agriculture as Caring-Practice." *Agriculture and Human Values* 18 (1): 107–19.

West, Candace and Sarah Finstermaker. 1995. "Doing Difference." *Gender and Society* 9(1):8-37.

West, Candace and Don H. Zimmerman. 1987. "Doing Gender." *Gender and Society* 1(2):125-151.

West, Candice and Don Zimmerman. 1983. "Small Insults: A Study of Interruptions in Conversations Between Unacquainted Persons." In *Language, Gender and Society,* edited by B. Thorne, C. Kramerae, and N. Henley. Rowley, MA: Newbury House.

White House Task Force on the Middle Class. 2009. "Green Jobs: A Pathway To A Strong Middle Class." Retrieved September 4, 2012 (http://www.whitehouse.gov/assets/documents/mctf_one_staff_report_final.pdf).

Woehrle, Lynne M. 2009. "Green Jobs, Peacebuilding and Paths to Community Empowerment." *Journal for the Study of Peace and Conflict* :73-81.

Xiao, Chenyang and Aaron M. McCright. 2014. "A Test of the Biographical Availability argument for Gender Differences in Environmental Behaviors." *Environment and Behavior* 46(2):241-263.

-----. 2012a. 'Explaining Gender Differences in

Concern about Environmental Problems in the United States.' Society & Natural Resources 25(11): 1067–1084.

-----. 2012b. "A Test of the Biographical Availability Argument for Gender Differences in Environmental Behaviors." *Environment and Behavior* 20:1-23.

Zelezny, Lynnette C., Poh-Pheng Chua and Christina Aldrich. 2000. "Elaborating on Gender Differences in Environmentalism." *Journal of Social Issues* 56:443-457.

Zimmerman, Mary K., Jacquelyn S. Litt and Christine E. Bose. 2006. *Global Dimensions of Gender and Carework*. Stanford, CA: Stanford University Press.