Renewable Energy Development & Symbolic Landscapes of the American West

Introduction:

Landscapes are not merely manifestations of the physical environment; rather landscapes are symbolic environments created by "human acts of conferring meaning to nature" that give the physical environment "definition and form" according to specific values and beliefs (Greider & Garkovich 1994:1). Symbolic landscapes emerge from the values by which people define themselves and are a reflection of our culturally based self-definitions (Greider & Garkovich 1994). Thus, landscapes are sociocultural phenomena that transform the natural environment into symbolic and meaningful places.

It is not surprising, then, that one of the foremost concerns regarding renewable energy development is the negative impact on the landscape. Such concerns are typically articulated in terms of visual impairments, scenic degradation, and loss of cherished landscapes (Devine-Wright 2004; Warren et al. 2005; Wolsink 2007). While such environmental concerns are likely sincere (however, see Bosley & Bosley 1988 and Gipe 1995), I argue that transformations of the symbolic landscape plays a critical role in the degree of local opposition toward renewable energy projects, particularly in the American West.

Drawing on the theory of symbolic landscapes, I suggest that references to visual concerns of renewable energy technology signify deeper anxieties about loss of cultural identity in the American West, which is embedded in symbolic meanings of landscape. When placed within the broader theoretical framework of symbolic landscapes, defined as the "symbolic environment created by a human act of conferring meaning on nature and the environment," oppositions raised by rural communities can be better understood

(Greider & Garkovich 1994: 1). Wolsink suggests that landscape concerns "are the main determinant of general attitudes…Hence, objections are mainly rooted in arguments concerning landscape characteristics and community identity" (2007:2701). Therefore, investigating how community identity is connected to the symbolic landscape should be used to better understand local opposition to renewable energy schemes.

Drawing from Marx and Geertz, "cultural symbols" are defined as images that convey special meanings to those of the same cultural group and confer a sense of group identity (Geertz 1973; Marx 2000). Geertz states "In order to make up our minds we must know how we feel about things; and to know how we feel about things we need the public images of sentiment that only ritual, myth, and art can provide" (1973:82). The symbolic landscape of the American West is a shared cultural symbol that is imbued with social meaning and expressed in the frontier myth, which succeeds in transforming the rural landscape into a symbolic one infused with meanings of independence, sacrifice, freedom and the sacred, one that is contrasted with the profanity and social ills of urban life.

Throughout this paper I will draw on research undertaken in Colorado's San Luis Valley in November, 2009.[1] The goal of this research was to understand the social factors that facilitate and impede renewable energy development through semi-structured interviews with stakeholders both within and outside of the community. The San Luis Valley (SLV) has been identified by both government agencies and industry as a premier site for siting a concentrated solar power facility (CSP), which is critical for meeting renewable portfolio standard goals under Colorado's Amendment 37. While a detailed analysis of that research is not the focus of this paper, I draw on some interview data to

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illustrate commonly held community sentiment and to further develop the theoretical framework of symbolic landscapes in the context of the American West.

The 'Gap'

It has been long recognized that a gap exists between high social acceptance of renewable energy, as expressed in social surveys, and the low success rates of local projects. Research in the San Luis Valley also suggests high social acceptance, as is evidenced by such stakeholder responses as "In the Valley I would say [support for renewable energy] is extremely high. I would say a supermajority, how's that? More than a majority" and "Tremendous, very high without exception. Folks are buying into renewable energy development." However, when questioned about a specific local CSP project proposal stakeholders expressed concerns. One stakeholder said "I have a fear of what solar farms will do to the landscape" and others stated "Solar will take up space in our area" and "[Solar energy] is an intensive use of the land." Such sentiments indicate a disparity between acceptance of renewable projects generally and concerns about specific local project proposals.

Bell et al. define this discrepancy as the "social gap" (2005). These gaps are often used as evidence for NIMBY (not in my backyard) or LULU (locally unwanted land use) syndromes, which suggest that social acceptance of renewable energy developments are favorable as long as they are 'not in my backyard' or on local lands (Bell et al. 2005; Kahn 2000). However, there has been little empirical evidence to support claims that NIMBY- or LULU-isms cause these gaps or are responsible for local opposition (Kempton et al. 2005; van der Horst 2007; Wolsink 2000). Instead, Wolsink argues that

these labels are used to discredit opposition concerns and have "become a great hindrance to the handling of critical attitudes" (2007: 2699). Indeed, research among stakeholders in the San Luis Valley also indicate that NIMBY and LULU explanations are oversimplifications of concerns expressed by local stakeholders. Instead, stakeholder interviews reveal that local concerns are complex, typically incorporating several elements of social, cultural, technological, political, and environmental elements (Bell et al. 2005; Wolsink 2006; Wüstenhagen et al. 2007).

Social Acceptance

Social acceptance is a ubiquitous term in the renewable energy literature and deserves specification here. Wüstenhagen et al. identify three dimensions of social acceptance—socio-political acceptance, community acceptance, and market acceptance (2007). In this paper I am concerned primarily with community acceptance, which refers to the "specific acceptance of siting decisions and renewable energy projects by local stakeholders, particularly residents and local authorities" (Wüstenhagen et al. 2007: 2685). Several factors are related to community acceptance, which are illustrated with qualitative data from interviews with stakeholders in Colorado's San Luis Valley. The first factor in determining the level of community acceptance is distributive justice, defined as the actual or perceived distribution of costs and benefits of a renewable energy facility. This was a common concern among stakeholders in the SLV and was expressed in terms of economic, social, and environmental distributive justice, each of which is illustrated in the following quotes:

> "How can we make sure that the San Luis Valley reaps the rewards? Because someone could build a solar plant and all the money leaves the local economy.

> Well, we've done good for our planet, but how can we make this benefit our own economic development?"

> "There is a fear of being known as a center for solar energy instead of our regional flavor… The fear of loosing local identity and regional flavor."

> ". . . footprint is a disadvantage in general for renewables.. . . the footprint interacts with habitat loss because it requires such a large footprint, so that it's a significant concern."

> "[People are] concerned about it being an unsustainable renewable energy development, too large of a scale--large plots of land for basically one industrial purpose. They have concerns about the water as well—the quantity of and types of solutions or lubricants used. Some people are overwhelmed by the size and taking agricultural land out of production and decline of a way of life."

Procedural justice is a second factor influencing community acceptance of renewable energy projects. Procedural justice points to the degree of inclusiveness in the decision-making process as well as the level of awareness:

> "There is a good amount of education that would probably need to happen in the Valley and I think we need to turn that responsibility back over to potential developers to educate the citizens in the Valley on what the technology is, what it isn't and to debunk some myths, but probably, most importantly, not to over-promise."

> "Whoever develops the plant has to start meeting early with the local people. It takes a long time to explain to people and questions arise, such as will the mirrors blind pilots?"

> "They don't know enough. If people were honest with you, I think they would tell you that."

The third factor concerns feelings of trust of actors from outside the community. In the case of the San Luis Valley, skepticism and concerns about rural-urban power dynamics were prevalent:

> "I also think people really resist outside influence…whenever there are outside forces there is always skepticism."

> "That is our biggest concern with it [CSP facility], that big money will come in, develop this whole area, for the benefit of people in urban centers, and it won't do anything for t he economy here."

> "Most rural communities have fear; they're skeptical of folks from outside coming in and doing stuff. It's an interesting mix of emotions and you don't want someone from the outside coming in... That's true for many rural communities--- it's a rural psychological mindset."

Social acceptance to renewable energy projects has been recognized as one of the most powerful factors in achieving renewable energy goals (Carlman 1982; Wüstenhagen et al. 2007). While social rejection to energy projects such as nuclear power plants and waste repositories is well documented (Eiser et al. 2006; Solomon et al. 2004; Wolsink 2000), barriers to social acceptance of "clean" energy facilities present new challenges that need to be addressed if carbon-reduction goals are to be met and for renewable energy policies to succeed.

When renewable energy projects were first implemented in the 1980s local social acceptance was neglected as a consideration since initial surveys showed high levels of public support for renewable energy technology, particularly of wind turbines (Wüstenhagen et al. 2007). Early attempts to determine the conditions that affect support for renewable projects treated social acceptance issues as "non-technical" residual factors (Wüstenhagen et al. 2007; Carlman 1982). Carlman was the first to move beyond public opinion studies to consider the "non-technical" factors that constrained social acceptance of wind turbines (1982). Among the key issues raised by Carlman and others (see Bosley & Bosley 1988; Thayer 1988; Wolsink 1987) was the significance of landscape. Speaking specifically of wind turbines, Wolsink states that the most important concerns are of "landscape quality and its preservation" (2007:2694).

Van der Horst argues that, on the whole, physical proximity to a proposed facility does have a strong influence on social acceptance, though the value of the land and the

symbolic meaning of the landscape may moderate this relationship (2007). It should be noted, however, that the relationship between proximity to a proposed facility and degree of opposition is not agreed upon among scholars (for example see Bell et al. 2005; Devon-Wright 2005). The shortcoming of the 'physical proximity' hypothesis, however, is that it assumes opposition is due primarily to negative perceptions of the physical attributes of particular renewable energy technologies (Devine-Wright 2004). Public perceptions of the physical attributes alone cannot account for local opposition, as is evidenced by variations in acceptability of wind turbines in different landscape types (Wolsink 2007). This points to the need for greater recognition of the symbolic meaning of landscapes and the human-landscape relationship. Indeed this is what Devine-Wright calls for when he suggests that further research needs to focus on understanding "how people come to make sense of the impact of an unfamiliar technology upon the places in which they live" (2004:127).

Although landscape concerns are present in the renewable energy literature (see for example Bell et al. 2005; Wolsink 2007), they are almost always interpreted as a justification for more "real" concerns. For example, Bell et al. (2005: 464) offer the possibility that people who oppose local renewable energy development "dress it up" in environmental rhetoric when the true reason is more selfish. Others have also made this claim (see Bosley & Bosley 1988; Gipe 1995; O'Donnell 1992). Moreover, landscape concerns are also categorized as purely aesthetic issues, such as visual impairment or polluting a pristine landscape (Devine-Wright 2004; Khan 2000:7; Wolsink 2007). However, as preliminary findings among local stakeholders in the San Luis Valley indicate, cultural heritage is inextricably tied to the landscape and concerns with

aesthetics and vistas need to be understood as fears of loosing rural identity as well as concerns with visual impairments.

Consequently, studies that dismiss landscape concerns as purely aesthetic treat the landscape only as a signifier of the physical geography rather than imbued with a deeper, second-order signification. Barthes distinguishes between first-order denotation and second-order connotation in which signs from the primary level become signifiers at a deeper, secondary level (1972). Barthes claims that "language is never innocent: words have a second-order memory which mysteriously persists" (1968:16). One way in which the human-environment relationship is symbolically expressed is through notions of landscape, which are inserted into cultural myths. Therefore, in order to understand the significance of landscape concerns beyond the conventional visual perceptions, we must venture on to explore the multi-layered cultural meaning of landscape in the American West that is expressed in symbols and myth.

The American West Frontier Myth

Max Weber demonstrated that peoples' actions are closely tied to the beliefs and ideas they have of themselves, which are informed by religious doctrine (1958 [2003]). I argue here that that beliefs and ideas are also, at least in part, drawn from myth. Myths are narratives that express shared values and meanings and help to make sense of experiences within a given culture. For Barthes, myths are socially constructed and taken-for-granted narratives that become "naturalized" within a particular culture (1972). Investigating environmental myths specifically, Short defines myth as "an intellectual construction

which embodies beliefs, values and information, and which can influence events, behaviour and perception…which resonate across space and over time" (1991:xvi).

Applied to society's relationship with the natural environment, myths play an important role in validating and maintaining culturally symbolic meanings of landscape. Mythic images are powerful sources of identification for cultural groups and have the ability to strongly affect action. Myth "is not only crucial to what we know as human life but is actually responsible for much of what we call human" (Poulsen 1992:17). Moreover, Peterson states "myth provides the means whereby social relations are sanctified" (1990:9). Applied to the concept of landscape, myth is not borne of the landscape but rather the symbolic landscape is a product of myth. Poulsen argues that myth has the power to transform mountains into a symbolic image of culture, "an image that dissolves the mountain from a natural oddity into a cultural manifestation" (1992:18). The frontier myth, with its emphasis on the rural and "idyllic garden at the edge of the savage wilderness" has served this function for the American West (Peterson 1990:9).

The frontier myth of the American West has persisted because, as Rudzitis notes "it is also the primary mythology of our nation" (1993:576). The landscape of the "Great West" can be understood as reflecting images of "ourselves, of our fears, desires, defeats and successes" and retains a significant and symbolic role in contemporary American society and in expressions of landscape (Poulsen 1992:21). Central to this rhetoric is the image of abundance and "empty" space, which works to emphasize the utility of the landscape rather than its aesthetic worth. Thus, human's relationship with the landscape is first and foremost one of instrumental value. Quoting Cotton Mather, Peterson

describes the Puritan covenant of dedication to subduing the land an "errand into the wilderness" (Cotton Mather 1855, quoted in Peterson 1990:11). This Puritan "errand" transformed into manifest destiny and the "prophetic summons to expand" (Bercovitch 1981:24). The western American landscape was interpreted as a "promised land" and still retains this mythic vision today.

This vision of landscape as utilitarian was also combined with the European pastoral idyll. The American myth, however, had as its hero the noble farmer rather than the guardian shepherd (Peterson 1990). In 1896, speaking of the westward expansion, William Jennings Bryan praised the frontier farmers as "hardy pioneers who have braved the dangers of the wilderness, who have made the desert blossom as the rose…" (Bryan 1909, quoted in Peterson 1990:11). This not only transformed the natural environment into a fruitful and abundant symbolic landscape, it also ordered it according to a specific worldview (Poulsen 1992). The frontier heroic farmer is also connoted as civilization's caretaker, laboriously fulfilling his divine mission and engaging in battles against nature and society (Peterson 1990). Independence and private property are the farmer's rewards for such sacrifice, today a deeply held cultural value in American society generally and in the American West specifically.

These cultural sentiments toward the landscape were also venerated in material cultural symbols. The seals of western states served to reify the frontier myth, as Brulle notes "state seal[s] can be seen as a graphic representation of the aspirations of the population" (Brulle 2000:117). For example, the seal of Kansas depicts an industrious farmer plowing up the prairie while a covered wagon presses west. Nevada, the most arid state in the nation, represents the bucolic idyll in its state seal with a log cabin, sheaf of

wheat and plow in the foreground. Likewise, the industrious, noble farmer diligently plows the earth in Minnesota's state seal. The plow is particularly symbolic, transforming the land from "sterility to fecundity" and from the profane to the sacred (Poulsen 1992:35).

Iowa's state seal not only portrays the landscape as utility, but also the notion of private property rights with its motto "Our liberties we prize and our rights we will maintain." Other state seals also illustrate the cultural embeddedness of the frontier myth, including: Arizona, Colorado, Idaho, Montana, Nebraska, Ohio, and South Dakota. Clearly, the frontier myth and rural idyll had already become an early symbol of American identity, one that was personified by the Jeffersonian noble agrarian. As Peterson notes:

> "For farmers symbolize reasoned progress every time they plant a crop, or civilize a bit of wilderness. Each season brings renewed encroachment from "wild" plants or animals, and each season farmers fight back with sophisticated instruments provided by the civilization they make possible" (1990:12).

The rural idyll is also characterized by expressions of harmony and "closeness" with nature, which is contrasted with an artificial and metropolitan lifestyle. Although this dichotomous relationship is not necessarily unique to America, the intensity with which American culture has invested in it is. Remarking on this point, Marx states "The soft veil of nostalgia that hangs over our urbanized landscape is largely a vestige of the once dominant image of an undefiled, green republic, a quiet land of forests, villages, and farms dedicated to the pursuit of happiness" (2000:6). The physical landscape of the American West provides the foundation for the region's economic base while the symbolic landscape supports people spiritually in a way that is contrary to city life. In

contrast to the city, the frontier offered the promise of private property, independence, and freedom from the social ills of urban life (Peterson 1990). Indeed, this sentiment was commonly expressed in interviews, as one San Luis Valley stakeholder commented "I don't think the majority of the citizens in the Valley want to change. We don't want to be another metro center." Another stakeholder echoed this concern, stating "...there is a portion of the community here who don't want commercialism."

Images of the rural idyll permeate American culture through literature, mass media and popular culture. Early American writers such as Henry David Thoreau, Ralph Waldo Emerson, Mark Twain, Ernest Hemingway and Robert Frost provided Americans a romanticized interpretation of nature, bestowing it with cultural symbols of simplicity, felicity and morality. The country landscape symbolizes a mystical-like state "where we pause, neither suffering the pressure of civilization, nor exposed to the terrors of wilderness" (Peterson 1990:12). However, disruptions of this image often provoke feelings of anxiety. Marx discusses the industrial intrusion into the natural and idyllic setting as a reoccurring theme in the novels and writings of these American authors (2000). These events, writes Marx "typically arouse feelings of dislocation and foreboding…The recurrence of the "interrupted idyll" testifies to the salience of the conflict of meaning and value generated by the onset of industrial capitalism" (2000:374). This is demonstrated by a San Luis Valley stakeholder who said "I think the Valley really needs to maintain its agricultural base and I would hate to see that get undermined by other technologies and forms of industry."

The theoretical framework of 'Symbolic Landscapes'

Greider & Garkovich proposed the theoretical framework of symbolic landscapes to understand a cultural group's definition of and relationship with the environment (1994). Their framework has since been applied to studies of place attachment and the social psychology of place (see for example Eisenhauer et al. 2000; Cheng et al. 2003). Place attachment theory takes as its core concept the positive emotional bond that develops between people and their environment (Stedman 2003; Cuba & Hummon 1992; Low & Altman 1997). Shumaker & Taylor discuss place attachment as a "person-place bond that evolves from specifiable conditions of place and characteristics of people" (1983:221).

Greider & Garkovich move beyond this by emphasizing the symbolic meanings attributed to natural settings that are deeply embedded in culture. Others have also taken a strong social constructionist view of place. Ryden states that place "takes in the meanings which people assign to that landscape through the process of living in it" (1993:37). Meaning is not intrinsic in the landscape itself, but resides in the interpretations humans apply to it; these interpretations are guided by cultural norms and values and are socially constructed through lived experiences that allow spaces to become "places" (Stedman 2003). Tuan goes so far as to suggest that an unexperienced landscape is "blank space" without symbolic meaning: "What begins as undifferentiated space becomes place when we endow it with value" (1977:6). Greider & Garkovich also assert the social construction of place: "Landscapes are the reflections of cultural identities, which are about us, rather than the natural landscape" (1994:2). In addition, Eisenhauer et al. maintain that "people confer meaning on the environment in ways that reflect their

social and cultural experiences," though they also allow for an influence of the physical environment in creating meaningful places (2000: 422).

Social constructions are thus limited by the physical features of the natural environment, which sets boundaries and give form to these constructions (Stedman 2003). In other words, there exists a reciprocal relationship between culture and nature. As Stedman notes "Local community culture influences place meanings, but so might the nature of the physical environment influence community culture" (2003:673). The nature of physical space can then be understood to affect the meanings of created place (Shields 1991). In essence, the meanings of place are based, at least in part, on its environmental attributes. Again, Stedman notes:

> "Physical features do not produce sense of place directly, but influence the symbolic meanings of the landscape, which are in turn associated with evaluations such as attachment…Humans then become attached to the meaning they have constructed for the landscape" (2003:674).

Landscapes can take on multiple "places" depending on the various experiences of different cultural groups with the landscape. A landscape may carry "multiple symbolic meanings that emanate from the values by which people define themselves" (Greider & Garkovich 1994:1). Applying this to the investigation of renewable energy development, we can ask: How might renewable energy technologies alter the natural and symbolic landscape and impact community cultural definitions of place? Efforts to understand the potential social consequences of changes in the natural environment must take into account the cultural definitions that create those landscapes. This understanding is critical if we also consider that threats to one aspect of the image may jeopardize the coherence of the whole (Shields 1991). Within the San Luis Valley, stakeholders

constantly expressed concerns about alterations of the physical landscape. One stakeholder claimed, "it [CSP] is going to take about 144 square miles…we started looking at that and thought, my God, that's an industrialization of the Valley floor!" and another stated "There are a lot of people who think there is going to be one giant mirror in the middle of the Valley and they really are not happy with it."

The renewable energy literature treats the landscape solely as a physical environment and fails to also consider it as a symbolic environment. By doing so, the literature is unable to fully explain local objections to renewable energy developments that are articulated as aesthetic or environmental concerns. When technological innovations alter the physical landscape they also affect the symbolic landscape. This forces conceptions of the collective self to be reworked through "a process of negotiating new symbols and meanings" (Greider & Garkovich 1994:2). Cultural groups use this process of social construction to bestow meaning on the physical environment and to define nature and the "world that is there" as meaningful (Greider & Garkovich 1994). Instead of treating space or geography as a given, the theoretical framework of landscape emphasizes the social construction of the physical environment to "reflect and configure being in the world" (Soja 1989:25).

Indeed, human actors creatively use culture to construct meaningful relationships with the natural world that becomes taken-for-granted and embedded in cultural myth and the social structure (Burch 1971; Busch 1989). The symbolic landscape becomes reified and part of the world taken-for-granted. Indeed, Rogers claims "Taking for granted is the lifeblood of everyday life" (1981:145). Taken-for-grantedness constitutes the "whatness" of daily life and becomes common sense experience for actors "pursuing their purpose in

a shared world of meaning" (Rogers 1981:145). The taken-for-granted arises out of the process of familiarizing activities that are based on shared cultural symbols that go unexamined. Berger & Luckmann state that "man is capable of forgetting his own authorship of the human world…Human meanings are no longer understood as world-producing but as being, in their turn, products of the 'nature of things'" (1967:89). In essence, the taken-for-granted becomes deeply embedded in the worldviews held by members of a cultural group that become reified in myth and attached to the landscape.

Conclusion

The sociological framework of symbolic landscapes can provide insight into the deeper meanings of visual concerns associated with renewable energy development. In addition, a symbolic landscapes perspective can help us understand why conflicts often occur over the meaning of change in the natural environment. What may be considered a simple or necessary modification of the landscape may be interpreted as a "threat to the fundamental meaning of a group's lifeworld" (Greider & Garkovich 1994). The symbolic landscape perspective provides a framework to more fully understand the potential sociocultural consequences of technological and environmental changes to the natural environment.

When considering renewable energy developments that will alter the environment in the American West specifically, the framework of landscapes emphasizes the critical importance of understanding the "meaning of the change for those cultural groups that have incorporated that aspect of the physical environment into their definitions of themselves" (Greider & Garkovich 1992:21). If such meanings are not considered,

renewable energy projects are likely to fail, which has been indicated by the gap between the general popularity of renewable energy and social acceptance of particular local projects. It is critical, therefore, to explore the symbolic creation of landscape from the view of the cultural group[s] impacted by changes in the physical environment. Such changes have the capacity to upset cultural meanings of the physical environment as well as the "values and beliefs that sustain these symbols and their meanings" (Greider & Garkovich 1994:21).

The theoretical framework of symbolic landscapes has the ability to provide substantive explanations of oppositions to renewable energy development in rural settings in the American West. Such explanations would go a long way in grounding perceptual research in social theory and compliment existing descriptive research that focuses on the physical attributes of renewable technologies. Indeed, Wolsink suggests that landscape concerns "are the main determinant of general attitudes…Hence, objections are mainly rooted in arguments concerning landscape characteristics and community identity" (2007:2701). As suggested by local perceptions in the San Luis Valley, investigating how community identity is connected to the symbolic landscape of the American West could further enhance understanding of local opposition to renewable energy developments and move beyond simplistic NIMBY or LULU explanations. Indeed, all local stakeholders in Colorado's San Luis Valley articulate concerns in "culturally" rational ways (Plough & Krimsky 1987). Such rationality is "concerned with the impacts, intrusions, or implications of a particular event or phenomenon on the social relations that constituted that world" (Fischer 2004: 91). By taking a socio-cultural approach to the concerns and objections raised by local stakeholders we can develop better insights into the social

barriers that exist in the siting of renewable energy technologies in general. Specifically, an appreciation for the symbolic meaning of landscape can deepen our understanding of the importance of physical landscapes and the forms of community identity and values associated with them.

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