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**Community, Renewables, and Development:**

An analysis of placemaking and sense of place in community responses to large scale solar developments, a Spotsylvania case study Report

**Introduction**

With the ever increasing threat of climate change, many nations are committing to decreasing their dependence on fossil fuels and turning to renewable energy development. The U.S is in the top ten list of nations that are solar-powered and the Spotsylvania Solar Farm Project is one of the largest utility solar farms in the U.S. With this project, my intention is to analyze the role community folks play as major stakeholders in large-scale energy project development, such as the Spotsylvania Solar Farm Project. I will use the Spotsylvania Solar Farm Project can be a case study to analyze community attitudes toward solar energy and construction of large-scale solar facilities, testing whether attitudes toward such developments are the result of sense of place and attachment to place.

**Theoretical Framework/Methods**

With renewable developments increasing throughout the U.S., it is important to understand the factors and causes of opposition and support of energy projects. Even more important is to understand community and local population and even a small minority of a local population can hinder the progress of ingenious plans. When it comes to the development of energy facilities, including renewables, public opposition by a sometimes numerically small group of people cannot only delay but even altogether halt construction of a development, which is often the spark for a lot of Environmental Justice movements. Many literatures provide different frameworks for understanding factors that might play a role in influencing public perceptions about and support for large utility scale solar energy. However, for the purpose of this research, to analyze the information of community support for the Spotsylvania large scale

utility solar, I will use geographic theories such place attachment and sense of place as well as draw upon social and environmental psychological theory on place and placemaking.

The Spotsylvania Solar farm project will be a case study of a locally contested energy project. The stakeholder analysis of Concerned Citizens of Spotsylvania will explore how emotional attachments to place and place related identity systems are threatened by new energy developments. Additionally, this research will explore other contextual factors related to the public support and opposition that are brought forth by Concerned Citizens of Spotsylvania including: the extent and timing of public engagement in the decision making process; distrust of project, project sponsors, ignoring local concerns, and lack of community “ownership” of the project.

Some questions that will guide my research for public opinion are:

How much do you trust or distrust the companies that are proposing to develop and build large solar facilities?

When was the general public -community -fully aware of this project was coming to their community?

How strongly do you believe or disbelieve that solar facilities are a symbol of local, state, and federal commitments to renewable energy?

How strongly do you believe or disbelieve that large solar facilities are ugly and spoil the scenery?

How strongly do you believe or disbelieve building a large solar facility within view of your property will decrease the value of your property?

My analyses will illustrate the differential responses of individuals living in the same community. More importantly, because people process information and make decisions through pre-existing beliefs instead of on information solely, there will be a focus on political ideology to analyze the opposition from Concerned Citizens of Spotsylvania. This research will also explore the perception of the seriousness of climate change and support for renewables among

Concerned Citizens and other community members. This will allow for my research to have a multiple levels of analysis, from intrapersonal to socio-cultural.

**Data: Gathered from Public Hearing Testimonies (100 + people)**

The data for my research come from the three public hearings held on Feb 24th, 2019 at Spotsylvania County High School. I analyzed eight hours of footage from the public hearing to group and identify the concerns of the opposition and the reasons for support of the project. The goal behind this method of data was to collect public opinion data from people who are more likely to have firsthand experience with utility-scale solar facilities sited in their communities. By reviewing the the concerns of the opposition and support for the project from the Livingston community, the responses were focused on respondents who are geographically closer to the soon to be active utility-scale development, construction, and operation. As such, the public hearing testimony data collect opinions from respondents that are more likely to be based on direct personal experiences with these facilities ( J.E. Carlisle et al. 2014).

Many members of the community, both supporters and opposers of the project, attended this meeting and gave testimonies on why they support or oppose this project. In reviewing the testimonies, I was guided by my research questions. The first two and the last questions seem to be answered heavily in the testimonies. I was able to group the testimonies of the opposition based on areas on concern such as: health and safety, property value, and size. I also included other contextual factors such as distrust of developer (SPower), concerns relating to ecological damages, and concerns about changes to the view/scenery, culture, and heritage of the community. Testimonies of property of value and disturbance of scenery/view are used to measure sense of place and place making.

**Raw Data:**

Support - (24)	Attracts business -	Acres will be sold anyways- development is inevitable- solar project is the least invading/imp actful	Climate change-solar is clean energy-helps the changing world- something else- infrastructure will be there	Energy diversity is needed- VA can lead renewables- “Warm power of the sun”	Climate change-2050- fossil fuels are killing the planet, renewables are needed - this is a world wide model for solar
Acres will be sold - agriculture - biochemical aka poop needed first-commercial residential -Climate change	Conservatives for clean energy va- VA needs renewables -Climate change	Spotsy land owners association 115-property rights issue - spower will be a large taxpayer- attracts business - renewable energy is good	Jobs and business attraction - support renewables -Climate change	Community- spost. can lead renewables -Climate change	- environmentally safe -renewables are good -climate change -
-solar rather than other houses and apartments -Nothing is there	-solar can decrease our oil dependency - Climate change	-good for business -growth in revue and jobs -	-solar is better than other offers for the property -Renewables are better options	-solar is clean energy -solar is better than other developments	-job creation -renewables are the future -solar is good for EJ -reduce pollution
-economic development	-solar is the future	-solar is futuristic	-economic benefit -safe for environment	-global warming -solar is clean -	-
Opposition (72)	-fire -	-view -heat Island	- history/cultur	-view -	-Fredsborg -Size

	environment-tax revue -distrust of spower	-Size -close to homes	e - view/landscape -size	history/culture -wild life habitat -health	-not against solar, but this project -distrust spower
Big picture-an ex. of the mandates of the NGD - this gives a green light to GND -history --Health and safety	Group of Concerned Professional Engineers : Burning candium panels -Public water -Tax increases	Distrust of project manner -S powers bankruptcy and lawsuits	50-feet from the house -ground water issues(well drying) -heat islands affect,health effect,fire	-We the people -property values -S-power distrust/greed -Candium -Accident during construction	-No protection of local gov. -Distrust of s-power -
-solar is good, not this project -Size - environmental impacts -	-size -too close to residential community -impact on real estate -wildlife	-Forced to approve the project-distrust of officials -Increase Electricity Rates-PJM -Solar do not work-the dominion plant makes it work-even in the sun it doesn't work	Not enough questions answered - traffic, erosion during construction	Deforestation and lost of Wildlife -Imbalance of ecosystems -	CC-An industrial use in an agricultural zoning land -tax revenue will be lost -No fiscal benefit
-land problems -size -spower distrust -near by properties -property value impact -agriculture land turns into industrial	-Distrust of spower -Not against solar, but spower -accidents during construction -Bad for environment, wildlife, -no revenue	-not against solar, but this project -No one wants to live near the power plant -Size -Citizens protects/health issues	-no new business -Distrust of spower -Not benefit to the county, but to corporations	-not safe to people, animals , water and lands, -Size -Higher taxes - Misrepresente d data from spower	-Other options-local restaurants-will bring in more tax revenues -large land used, less money generated -more revenue generated for

					corporations and not the county
-spower distrust -size -too close to homes -change the character of the county, people, and history	--Value on property -size -not against solar, but this project -no revue -energy goes out of state	-we are for renewable energy, but not this project -Horrible eyesight -size -	-size -close to residential areas -distrust of Spower (LLC can walk away) -Property values	-views -quite -property values -distrust of spower -size	--health and welfare before corporate greed -no new employment -no new business -distrust of spower -loss of tax revenue
-lack of transparency from spower	-distrust of s-power -impact on property value -size	-impact on property values- decline of property values -tax revue	-No economic development -No business attracted	-distrust of Spower -size -Ecology of the site	-distrust of spower -history -
-distrust of spower -size	- welfare,property	-yes to clean energy,not this project -spower distrust	-Distrust of Spower/AEE S -revenue loss -history of sposty	-peace, safety, -size -distrust of Spower	-not against solar energy, distributed solar -
-property values decrease -historical past -agricultural zoning land should not be used for industrial solar	-for renewable energy, not this one -Size -impact during construction -	-Economical impact - character/history of spot -low tax revenue -spower distrust	-lost county revenue -spower distrust -size -change of landscape, historical benefits and tourism	-support renewable energy -property value -size -close to residential community -water,soil, air concerns -distrust of	-solar and renewables are good -too close to residential homes -Size -views of panels -zoning set to agriculture not industrial

				spower	
Distrust of spower -Water safety	-fire risk -close to homes	-Fire (x6 people)	-no reason to live next to a solar farm -view - landscape	-zoning -scale/size -VA ranks low for solar power capacity	-size -location to close residential homes -spower distrust
- culture,view,community	-distrust of spower -size -residential is better	-property will be less desirable and affect the propety value	-traffic construction -fire burning	Spot. Conservative women -Zoning -size	-wildlife -heat -safety reasons -
-size -size -distrust of spower	-rising electricity cost -size	-distrust of spower -size -too close to homes -Zoning violations: land use change	-water safety -closeto residential homes -not aware of the project until late -property value decrease	-lost of tax revenue -changes the cultural use of the land from rural character to industrial -Dominating size	-property values -rural to industrial
-candium	-candium	-candium	-distrust of spower	-no tax revenue -health effects -size	-candium -distrust of spower/corporate greed

Figure 1: Table of Raw Data, notes of reasons for support and concerns of the opposition.

## Data Analysis

Areas of Concerns	Number of Times Mentioned
Ecology	8
Health & Safety	33
Size	31
Lack/Loss of Tax Revenue	10
Decrease of Property Values	16
Culture, History & Landscape (View)	31
Distrust of Spower	35

Figure 2: Table showing list of concerns from the opposition and how many times they were mentioned

Ideologies	Opposition	Support
Mention of Seriousness of Climate change	0	8
Mention of Support for Renewables/Solar	12	22

Figure 3: Table showing number of people that mention seriousness of climate change and support for Renewables/solar



## Results

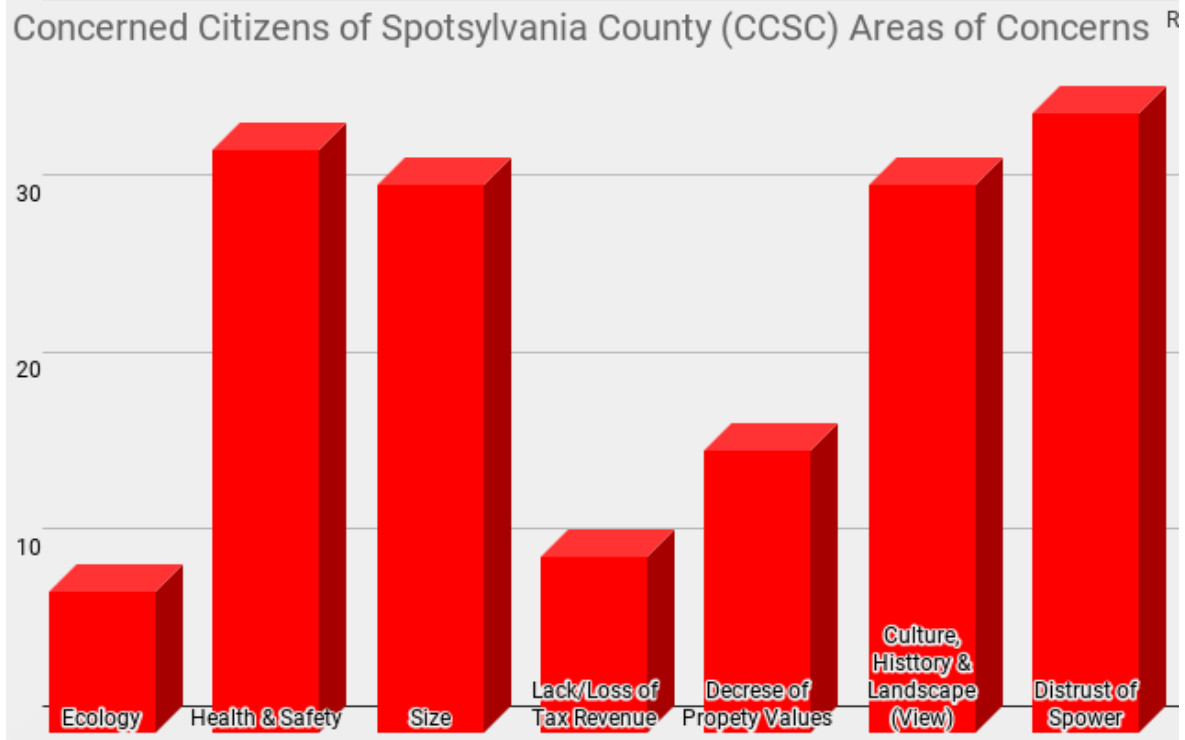


Figure 3: Graph Showing Summary of Concerns Mentioned by Community Members

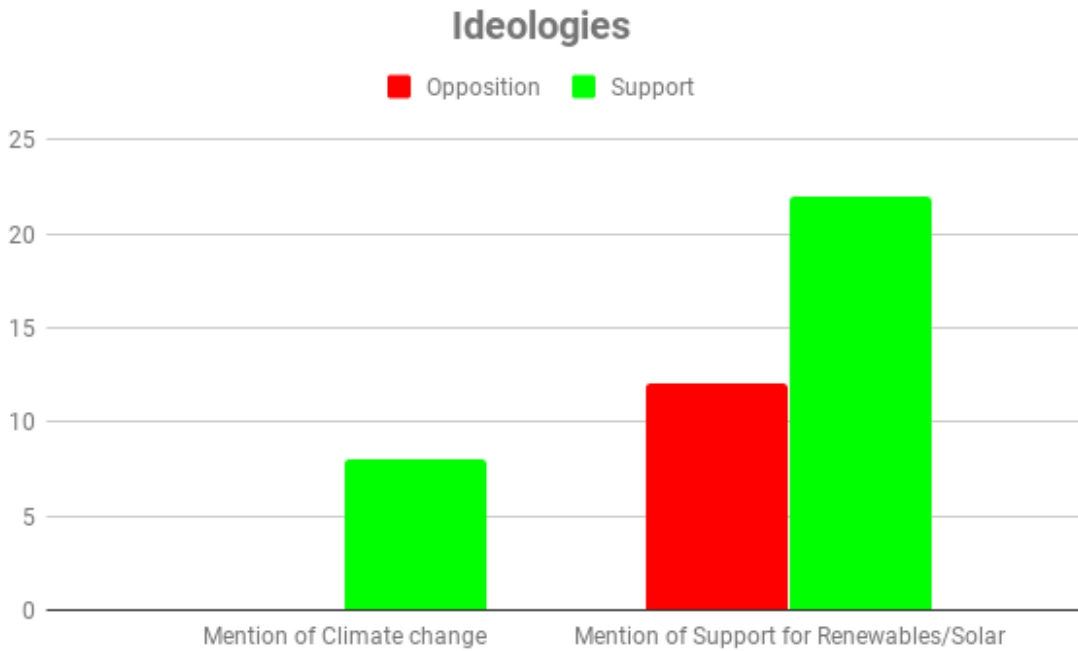


Figure 4: Graph showing number of people that mention seriousness of climate change and support for Renewables/solar.

## Discussion and Conclusion

Negative responses and opposition to building infrastructure nearby have been considered many explanations and often uncover a more complex relationship( J.E. Carlisle et al. 2014). The purpose of this study is to understand whether place attachment and place-related symbolic meaning helps explain support for large-scale solar facilities in Spotsylvania County. Solar is a great source of energy that can help alleviate the expansion of the dependence on fossil fuels. Although large, utility- scale solar facilities are not widespread in the U.S., there is a general support for its development both from public opinion. Studies suggest that a majority of the American public supports renewable energy in general (Warren, Lumsden, O’Dowd, Birnie 2005 and Wolsink 2000). Nevertheless, even with the growing support toward solar, “development of utility-scale solar is often thwarted due to a variety of obstacles including cost, efficiency, and regulations” ( J.E. Carlisle et al. 2014). This is especially true in the Spotsylvania.

Although it may seem as though there is heavy opposition for the project, the Spotsylvania Solar Farm project has gained both support and opposition from the community members surrounding the Solar Farm. Both sides used sense of place and place making to make the case for and against the project ( figure 1). However, to my surprise, there was one other contextual factor that stood out among the testimonies: distrust of the developer, SPower (figure 3). One reason for the high level of distrust for SPower among the opposition could be the lack of transparency and community involvement in the early stages of development. The company began the development process in 2016 as they they started to work with the county officials, while the community members at large were not involved in January of 2018.

Place attachment and sense of place produce results in reference of property values, and significant results in the plight for preserving the heritage and scenery of Spotsylvania. That is, the testimonies focused more on the change in culture and scenery resulting from large-scale

solar development rather than the property value. Although many community members relied on placemaking and sense of place to emphasize their need to keep their community's character and heritage, the opposition for this project was heavily based on the distrust the community has for the developer, SPower.

#### Literature Resources

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