Understanding the stake of the government and government officials in the Spotsylvania Solar Farm Project (story map)

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Introduction

The Spotsylvania Solar Farm Project is a proposal to build a 500 megawatt solar farm in Livingston in Spotsylvania County, Virginia. The project is managed by Spower with various investors such as Dominion, the University of Richmond, Microsoft, Apple, Etsy, Swiss-Re, and Akamai. However, there are many stakeholders outside of the main investment groups. These stakeholders include the citizens in Spotsylvania where the solar farm will be located, climate activists advocating for increased renewable energy usage, and local, state, and federal government representatives. Across the scale of government representatives, there have been initiatives to increase, decrease, and regulate solar power and other energy sources. This project addresses how at each scale of government solar power has been supported or opposed and the type of legislation and representatives that are supporting and opposing it.

Literature Review

The theories of space and place are useful ways to understand land usage from various perspectives and understand the conflict involved in the Spotsylvania Solar Farm Proposal. In the case of the proposal, space and placer are integral parts of understanding the perspectives of the various stakeholders invested project.

As a space, the Spotsylvania solar farm is proposed to be located is northeastern Virginia in Spotsylvania county. The space matters because it is in Virginia and it is near some technological company hubs. As a place, the Spotsylvania solar farm proposal includes three massive land

fragments where the land interacts with the environmental and human systems that border it. To understand the priorities of various stakeholders, it is useful to analyze the land using place and space because both highlight issues pertaining to placement and utility. That is, why is this project being placed here, what are the benefits of this projects, and what are the consequences? Space can be understood as an abstract idea of the processes of movement and mobility of capital, labor, resources, and information (Korsgaard et al., 2015). For a number of stakeholders, space is a more important concept of the solar farm. It is strategically placed in a rural-suburban region close to a growing technology hub while solar power is becoming increasingly popular.For example, Microsoft and the University of Richmond understand the solar farm project as a project that needs to be located somewhere. Whereas many residents of Spotsylvania emphasize the place.

Place can be understood as what is “experienced through intimate dealings with surrounding object and people” (Korsgaard et al., 2015). Many opposers of the project see the project as intrusive to meaningful land because it is their neighborhood, their watershed, or their potential investment property. The clash between space and place highlights the root of the conflict between the stakeholders that support the solar project and those that do not. Even for those stakeholders exclusively concerned about the promotion of renewable energy, they have an agenda and they need a location to follow-through, giving them a space-oriented view.
Like different disciplines, different stakeholders tend to focus on varying aspects of place and space that are often incongruent even within one theory. For example, one may primarily focus on the relationship between location and comparative advantage while another focuses on the relationships between location and space or relationships between location and the organization

of economic activity (Beugelsdijk et al., 2010). Generally speaking though, this project is the beginning of many similar projects that are sure to follow and will lay the foundation for how other solar farm and renewable energy projects are carried out. The “transition to low-carbon energy production is fundamentally a geographical process that involve reconfiguring current spatial patterns of economic and social activity” (Bridge et al., 2013). Meaning, the energy needs to come from a space and that people will be involved throughout production and usage. The Spotsylvania solar farm project is unique in that it is the first project of this scale in this region of the country. However, it is not unique in that there will continually be more projects just like this in areas very similar to Spotsylvania and the geographic understanding of it will lead to more thoughtful determinations on absolute location and place-making.

For this section of the cumulative analysis of the solar farm project,scale is used to analyze the government stakeholders, specifically through spatial and thematic scale. Spatial scale focuses on space and thematic scale “focuses on the grouping of entities or attributes” (Smelser & Baltes, 2001). In this case the spatial scale is the size of the district being represented. At the local level it is Spotsylvania County, at the state level it is individual house and senate state districts, and at the federal level it is the state of Virginia.

In the instance of solar development, understanding the scale of government and legislation is important because in Virginia, solar projects require a permit under Virginia’s permit-by-rule provisions through the the Virginia Department of Environmental Quality (DEQ) as well as local permits (Office of the secretary of commerce and trade, & department of mines, minerals and energy, 2018). The Spotsylvania solar farm project specifically required that “HB 2219 Utility-scale solar energy facilities; construction of facilities to be in the public interest”

pass because it allowed for the 500 megawatt size to be allowed under Virginia state law (Yost, 2015). In addition, the project also needed local approval from the Spotsylvania Board of Supervisors for all three solar farm sites ("Spotsylvania Solar Energy Center", n.d.). The bureaucracy of the process can seem tedious to further develop solar energy technology, but understanding the various scales of the legislative and permit approval process can help to understand why it is necessary to get approval at each scale to ensure safety, economic and environmental success, and general satisfaction.

Furthermore, the connectivity between each of the scales is equally important. Especially in government, the spatial scale can give undue importance to federal and global levels. In the case of solar legislation, much of the support comes from state delegates and senators as opposed to federal representatives and senators (https://drive.google.com/file/d/1wXYKpAncDweVI_u-8W6oabN0D-Mqy5WE/view?usp=sharing). That is not to say that the federal government is not important. The federal government has enacted important legislation to incentive solar production such as the Solar Investment Tax Credit (ITC). Since it was enacted in 2006, the solar industry in the United States has grown by more than 5000% ("Solar Investment Tax Credit (ITC)", n.d.). However, the solar panels, gardens, and farms still have to be built somewhere, in the state, and in the community, so decisions and regulations regarding development are often left up to the state and local entities. The interconnectivity of the various scales of government entities allows for an often slow, but primarily thoughtful development. The Spotsylvania Solar farm project and conflict was a logical step from the federal incentive and state legislation to further fine-tune and develop the largest solar farm east of the Rocky Mountains.

Methods

My project was developed through an analysis of different votes, bills, and platforms of the members of the the Spotsylvania Board of Supervisors, Virginia state Senate and House of Representatives, and Virginia federal House of Representatives.

In creating the local Spotsylvania map, I collected data on the Spotsylvania Board of Supervisors' votes on the site permit. If they voted in favor of the permit, their represented district within the county is green. If they voted not in favor of the permit, their represented district within the county is red. There was no visual spatial correlation between 'yes' votes and 'no' votes at the local level.

In creating the state level map, I collected data on solar legislation introduced in the Virginia state Senate and House of Representatives by using the Virginia General Assembly's "Virginia's Legislative Information System" website and coding for any bill or resolution passed from 1995 to 2019 that included the word solar in the title. Using this method of data collected, I accumulated a collection of 70 bills and resolutions with data regarding the year it was introduced, who introduced it, and a summary given on the bill's or resolution's page (https://drive.google.com/file/d/1wXYKpAncDweVI_u-8W6oabN0D-Mqy5WE/view?usp=sharing). I used the bills that supported solar power and the delegates and senators that supported them to highlight those districts on the state level map. There was no obvious visual correlation between the state senators and their support for solar power based on this method of analysis. There was limited visual correlation between state delegates and their support for solar power based on this method of analysis with delegates that introduced solar bills coming from districts in the southeast and northeast primarily.

In creating the federal level map, I instead chose to focus on the federal Virginia representatives and performed an analysis of the Virginia federal representatives sponsorships

and co-sponsorships of bills regarding energy, as well as their campaign platforms and public statements. To collect this information, I used Civic Impulse's website GovTrack under the subject energy for each representative and determined if they supported or opposed different types of energy. Because many of the representatives were new or stayed neutral on their position regarding various energy types in the votes, I supplemented this data with information from their campaign websites and public statements. There appeared to be a visual correlation between space and solar support based on this method of analysis with more representatives in from the districts on the east side of Virginia supporting solar than the representatives from the districts on the west side of the state.

Discussion

The data I collected showed that there is significant investment into developing solar energy and solar energy legislation at many different levels. Furthermore, there is an *increasing* amount of investment in developing solar energy and solar energy legislation. Specifically at the state level, there was a noticeable increase in the amount of solar-related bills being introduced in the state senate and house from 1998 to 2019. This shows that the state is preparing legislation to support solar infrastructure and solar projects in the future. The Spotsylvania Solar Farm project is unique only in that it is the first, but the characteristics that embody the space and place of the project (i.e. proximity to data hubs, urban-rural area, abandoned timber farm), are characteristics that you can find in land all across Virginia and the United States. So while it is unique in that it is the first of its size east of the Rocky Mountains, it will not be the last. Federal and state legislation will continue to push for the most economically efficient energy sources and the

technology for solar power is only improving. Local entities will need to make the same decision as Spotsylvania, weighing some of the unknown benefits and consequences of introducing solar power at a new large scale and as this project and other similar projects continue to be developed, the state and federal government will continue to create and amend legislation. It is a cyclical system that relies on balance and communication at all scales of government.

Conclusion

My project attempted to understand how at each scale of government solar power has been supported or opposed and the type of legislation and representatives that are supporting and opposing it. The results deemed to be in conclusive for the most part. However, trends that delegates that introduced solar bills came from districts in the southeast and northeast primarily suggest that more urban and technology-based economies are more supportive of solar than others. Similarly, at the federal level, a visual correlation of representatives in from the districts on the east side of Virginia supporting solar more than the representatives from the districts on the west side of the state suggest that again more urban and technology-based economies are more supportive of solar than others, but also that representative from districts on the west side might be hesitant to support solar because of the risk of it replacing coal because of the coal communities on the west side of the state. A government analysis at different scales can highlight generalized support for industries and initiatives. However, as observed within the analysis of Spotsylvania county, many more discrepancies exist at the local level and it is necessary to research and understand those discrepancies because they represent the tangible and immediate effects on people. In conclusion, solar power is a growing industry and that growth can be observed within these analyses and will likely continue to show these same patterns. It will be

interesting to see how support transitions geographically as solar power becomes more mainstream.

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