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Proposal for Consideration - Solar Farming Development

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Memorandum

To: Commissioner Whitcomb and Ellen Griswold at Maine Farmland Trust
From: Zachary Cross, University of Southern Maine, Undergraduate student of small business/entrepreneurship
RE: Proposal for Consideration- Solar Farming Development
Date: March 8, 2018

Introduction

As new forms of energy begin to become more popular across the nation and the world to help combat the current environmental issues that are occurring around the globe. As solar developers that help to find and create space for these large solar farming operations to occur, are becoming more active in many regions across the country. As these solar farming projects increase it could lead to development on not just non-farmable, but could lead to farmers giving up farmable land for a piece of guaranteed income provided by solar developers. To stay ahead of these possible environmental issues that may occur, a policy must be formed to help stop these issues in solar farming from happening as they begin to develop in the state Maine.

Policy Proposal and Rationale

As the world population continues to grow, the amount of available land will began to shrink, creating an impact on farmable land that is needed in order to continue to feed the growing population. This shows concerns in converting cultivated land into solar farming land since it might have a major importance in later years when farmland is scarce, but will still be needed in order to supply a growing population with the food needed to survive. Finding a common understanding of what land should be used towards solar developing and what land needs to be protected for agriculture needs should be a top priority. Policies should be implemented to help create a common foundation of how to target against the negative effects of solar developing that can be seen in similar projects that have occurred in different regions. Polices must be created as guidelines for solar developer's looking to start projects in the state of Maine, which will help provide sustainable energy while still keeping the farming environment viable. These projects will need to take place in a sustainable way going into the future. Looking at California as an example, can help create a possible plan that can be developed to use the abundance of non-farmable land created by water issues in the state that is no longer useful as fertile-agriculture land. This example could be used in the same aspect of determining what type of land could be used for solar farming in Maine.

A good model that shows how to use non-farmable land for one of these solar developing projects occurring in the state of California is the West Lands Solar Park located in Fresno/Kings County (6). This Solar farm has the potential to cover 24,000 acres of the region, and this would lead to the possible ability of producing up to five gigawatts which is equivalent to 25% of the whole country's energy capacity (6). While looking deeper into a project like the MoJave Desert Ivanpah solar project, one can understand the great benefits that come out of this type of project as well as the negatives that also occur through the creation of a project of such magnitude. Looking at how this project benefits the area's economy, 83% of total costs of the project are put back in the community through labor and capital equipment that is sourced

through the United States, we see growth in jobs creating 830 construction openings, and 70 permanent jobs (5). This project consists 170,000 mirrors that span 5sq miles and 3 towers at 460ft with boilers that are heated to 1,200F degrees, which creates the steam to spin a turbine that creates energy. This project creates 617,000mega-watts, enough energy to power 140,000 homes, and it reduces carbon dioxide by 329,000 metric tons (5). Negatives that can be seen from this project is danger to a native tortoise's, and birds that have been found to be burnt from the powerful reflective mirrors that heat the boilers. BrightSource, the solar developer of this project, has spent over 50 million to help relocate these turtles to help reduce the negatives of solar development (4). Issues like these are prevalent to this region primarily, but can be used to help get a better understanding on how the positive and negative effects of solar development can be controlled by strong polices for developers to follow.

Outcomes

By understanding how other regions of the country have implemented these solar development projects, we can comprehend how to create polices in order to control the outcomes of the project before developing in new regions. Issues that would need to be outlined in polices should place guidelines on what type of land can be used for these projects, since the target land for these types of projects is non-farmable land that is just being wasted. For many farm owners, the non-fertile land that is being wasted can become a source of revenue. Having polices in place before solar developers begin the project, can help to target ideal land, that could help fight against the loss of farmable land that is needed going into the future to grow food for the increasing population. Factors that should also be considered when allowing one of these solar projects to venture into a Maine community, is how taxes could be effected in the area, property value rates in the area, and how it would impact the availability of locally sourced food. A firm and subjective policy needs to outline certain requirements for these projects to be able to enter communities by offering and promoting job opportunities for locals without the risk of taking advantage of the people living in the area.

Political Process

Policies around solar farming developments should be a formed by creating a general state overlook of areas of interest, how to properly analyze these areas for use, and how to help form a general contract to be used between solar developers and land owners. These landowners and solar developers should be required to attend town meetings to express how these solar fields will work and how it can benefit the community around them. Having them address the community together will show a strong partnership that can help a sense of trust among the community that will be affected by this type of project. Projecting the benefits that can come out of the project but, also provide an understanding of negatives that could occur. Having people understand the negatives from an early stage will help to control doubt that may form by these types of projects.

In conclusion by creating a strong base of polices that give a type of outline on subjects like what land to use for these type of projects to reduce the risk of developing on fertile farm

land. Creating a general policy for the structure of these types of deals to be followed by the solar developers and land owners to help create a system to protect the state's valuable land.

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