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Solar Farming Considerations

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An effort to rely on renewable resources instead of nonrenewable has the potential to meet the increased global demand for electricity. Both solar and wind energy have the potential to offset a significant fraction of non-renewable electricity demands, yet it occupies extensive land when deployed at levels large enough to meet global demand. With continuing cost declines, led by federal and state incentives, solar power is playing an increasingly important role in how states meet their energy needs. The following summarizes some of the considerations for individual farmers, communities, and local leaders before any final decisions are made and/or contracts signed:

1. The most suitable land suitable for utility-scale solar farms is flat, clear of trees, structures or other obstacles, free of ponds, streams, and creeks, and bordered by a road that will provide easy access to construction crews. These conditions are typically found on prime agricultural farmland. This can create tensions between land uses and bid up the price of these higher valued lands. Ideally, solar panels should be used on more marginal lands.

2. It is essential that anyone considering the lease of their land has their contract reviewed by a lawyer familiar with the possible terms. In particular, the contract should clearly specify the disposal of panels and the negotiated terms of returning land for production. In some states, solar companies are required to post a bond to protect the property owner from developer bankruptcy, disposal and clean up.

3. It is easy to be swayed by the short-term benefits of leasing your land for solar panels. Currently, solar farms are leasing land at prices ranging from $400 to $1,200 an acre. These lease rents are higher than the current cash rents Kentucky farmers are receiving for cropland and tobacco. In the short run, there are financial benefits, particularly for older farmers who are battling a downturn in the agricultural economy. It is important to make decisions with the long

term in mind. How does the present value of the lease payment offered by the developer compare to the expected long-term return if the land was in production?

4. Through the popularity of utility-scale solar farming, it has become clear how important farm succession plans are. If the term of the lease is expected to outlive one's life expectancy, then creating a succession plan now is critical.

5. Land maintenance might be lower but it is not negligible. Because solar panels capture 20% of the light for about 5 hours of the day, the rest of that solar energy will pass through to the ground. As a result, grasses, broadleaf weeds, and eventually woody shrubs will grow. There are three ways that solar farms can address this potentially unwanted vegetation: herbicides, mowing, ground cover, or a combination of all three. It's likely that a non-trivial amount of herbicide will need to be used to minimize weeds. In addition, landowners will still need to maintain equipment to remove unwanted vegetation or soil, grade roads or paths, mowing, etc. Some places have used sheep for some maintenance but this probably won't be sufficient.

Kentucky is not yet a significant player in utility-scale solar farming. Currently, Kentucky is ranked 40th as measured by the number of annual new installations. California and the other Southwestern states, and even the state of New York, have been dealing with solar farming for several more years and only recently has there been a surge in interest in Kentucky. The topic is one of significant national, state, and local interest particularly since so many of the affected counties didn't have any plans in place to address this new competition for land. In an effort to allow time for careful planning, dozens of communities across the country have imposed 6- and 12-month moratoriums on new large-scale solar projects. For example, Porter, NY, Riverhead NY, La Sueur County, MN, San Bernardino County, CA, Marshall County, IN, Duanesburg, NY and Northampton County, NC have all recently voted to impose short-term moratoriums.

The local community should proactively adopt policies within its planning and zoning ordinances. The policies should complement the community's existing comprehensive plan. It is important to not make fragmented decisions and instead identify areas of the community, if any, best suited for utility-scale development. The community should also clearly articulate its values and priorities to ensure all contracts meet the minimum standards. Stakeholder engagement is a key component of large-scale solar development. The majority of the proposed projects will require a zoning change which means the community will have an opportunity to voice their concerns in a public setting. The more community leaders and developers understand local values and policies, the easier it will be to develop a project that is acceptable to the community.

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