

**MEMORANDUM**

January 25, 2021

**To:** Johnson County Planning Commission

**Fr:** Sean Pendley, AICP, Deputy Director

**Re: Utility-Scale Solar Energy Facilities (Solar Farms)**

There is increasing demand and interest for the use of solar energy on a large scale to provide alternatives to coal-based power. According to the U.S. Department of Energy, solar power is considered the cleanest domestic energy source available. Solar energy reduces harmful effects on the environment and utility-scale solar facilities provides cost effective options for power generation. Solar photovoltaics (PV) installations are fairly common for individual properties in Johnson County but there are currently no utility-scale solar facilities, or solar farms, that supply power to the energy grid in the unincorporated area. These types of facilities could provide benefits to the County, however there are also many factors to consider for sustainability goals, land use decisions and economic impacts.

**Zoning Regulations:**

The County Zoning Regulations do not specifically address solar energy facilities. There are provisions for solar collectors which are allowed as accessory uses on individual properties, such as PV panels on rooftops or ground mounted installations. In addition, the County has Special Permit requirements for public utility facilities and utility enterprises for power generation, including electric powerplants or substations. However, solar farms are different than electrical facilities due to the larger area of land involved and impacts of long-term leases and land use. There are planning and policy issues that should be addressed in the Comprehensive Plan and Zoning Regulations. One question for regulatory review is to determine if these types of facilities should require a Conditional Use Permit or Special Permit. Both of these permit processes require public hearings and approval by the Zoning Board and Board of County Commissioners. However, there are different types of performance standards, terms or limits for use, and possible conditions for approval.

**Berkley Group (Planning Consultants):**

County staff has begun discussions with Darren Coffey and Denise Nelson with the Berkley Group to assist with research, technical expertise and education for solar energy facilities and local regulatory considerations. A report from Darren Coffey titled "Planning for Utility-Scale Solar Energy Facilities" is found in the Planning Advisory Service for the American Planning Association. The report provides an overview for solar facilities and related issues affecting local jurisdictions. Staff is beginning to research this subject and considering best practices for solar facilities and possible updates to the Zoning and Subdivision Regulations.

**NextEra (West Gardner) Solar Farm:**

A private energy provider (NextEra) has announced a potential solar farm project in the unincorporated area of Johnson County. NextEra Energy invests in renewal energy resources and provides wholesale power generation. The potential project area is located in the McCamish and Gardner Townships in southwest Johnson County.

**NextEra Project Summary:**

- According to the applicant, the project search area includes approximately 3,500 acres located in southwest Johnson County and part of Douglas County.
- The exact project boundary and specific properties for solar equipment have not been identified.
- NextEra obtains ground leases with property owners and installs solar panels and ancillary equipment on available portions of property.
- Solar arrays (panels) capable of generating up to 500 megawatts of renewable energy.
- Power is distributed by wholesale trade to public utility and possibly private energy use.
- Project timeline not certain, NextEra indicates possible regulatory approval in 2021 with goal to begin operations by end of 2022.

**Planning Commission Discussion:**

At the January 26 Planning Commission meeting, Planning staff and consultants from the Berkley Group will give a presentation with an overview for solar energy facilities and potential impacts for the unincorporated area. This will be an opportunity for discussion with the Commission and to consider next steps for public outreach and possible updates to the Comprehensive Plan and Zoning and Subdivision Regulations.

**Additional Information:**

**Planning for Utility-Scale Solar Energy Facilities**, Darren Coffey, AICP  
American Planning Association (PAS Memo)  
<https://www.planning.org/publications/document/9184153/>

**NextEra Information**

The following is a link to NextEra website with preliminary information for the project, described as the West Gardner Solar Project.

<https://www.nexteraenergyresources.com/west-gardner-solar/project-overview.html>

Link to NextEra solar page with example for size and scale of solar farm installation.

<https://www.nexteraenergyresources.com/what-we-do/solar/universal.html>