Addendum:
Utility-Scale Renewable Energy Facilities Policies

Utility-Scale Renewable Energy Facilities

Nationally, the United States has seen a dramatic increase in renewably generated energy in the last few decades. With respect to solar, since 2010 installed solar photovoltaic capacity has grown from about two gigawatts (GW) to approximately 130 GW at the end of the first half of 2022. For wind generated energy over this same period there has been an increase from 40 GW to 144 GW. These increases are due to many factors:

1. The cost of solar energy facility technology has decreased dramatically (80%) since 2010;
2. Growing demand for renewably generated energy from the private sector;
3. Instability in the availability and costs of traditional fossil fuels due to geopolitical conditions;
4. State policies and incentives to achieve carbon emissions goals and to reduce reliance upon fossil fuels; and
5. Economic and financial opportunity for landowners, especially farmers.

For solar, the growth in solar energy generation capacity in Virginia has similarly increased, with installed solar capacity increasing from 17 megawatts (MW) in 2014, to 470 MW in 2020, and further increases, along with increases in wind energy generation, are supported by State policies and regulations. The Commonwealth's 2018 Virginia Energy Plan called for targets of 3,000 MW of solar plus onshore wind capacity to be deployed by 2022, and 5,500 MW by 2028. Anticipated capacities were increased by the adoption of the 2020 Clean Energy Act requiring Dominion Energy Virginia and American Electric Power (aka Appalachian Power) to produce 100 percent (100%) of their electricity from renewable sources by 2045 and 2050, respectively, based upon an aggregate capacity of 16,100 MW of solar and onshore wind declared to be "in the public interest." As a result, potential interest in both solar and wind energy generation facilities has increased within the State, and specifically for wind, especially in localities that may have the wind resources to support the development of utility-scale facilities.

With large amounts of affordable and undeveloped land, and existing and upgraded electric transmission infrastructure, interest in the construction of utility-scale solar and wind in the County has and will likely increase in response to Virginia's directive to the two principal utility companies operating in the state to transition to renewable energy sources. More akin in form to industrial development than traditional agricultural uses historically seen in more rural areas of the County, it will be necessary to consider the appropriateness of these uses, along with the size, scale, design, and siting of these uses if allowed to ensure that they are compatible with existing residential and commercial uses, and do not negatively impact the County's agricultural, environmental, and recreational resources.

General Land Use Strategies for Renewable Energy

With regard to the broad consideration of renewable energy, the County has enacted the following general land use strategies:

- Discourage inappropriate development and land uses that may have detrimental impacts to prime farmland, rich natural habitats and resources, and the County's outdoor recreational resources.
- Balance the opportunities and the impacts of the future of renewable energy, and specifically utility-scale solar.
- At this time, utility-scale wind facilities are not considered to be an appropriate land use in the County given their potential impacts on adjacent and nearby uses, the County's natural resources and important viewsheds, and shall therefore be prohibited.
- Explore agreements for compatible projects that can assist with the deployment of broadband and other county services.
- The potential development of residential, commercial, industrial, and solar and wind developments in rural areas must be carefully planned to avoid loss of open space and important natural resources.
- Consistent with the requirements of § 15.2-2288.7., Local regulation of solar facilities., of the Code of Virginia, the County allows roof-mounted, as well as ground-mounted solar installations as accessory uses; this tool is important in helping facilitate sustainable, environmentally friendly development.

Utility-Scale Solar Facilities

Utility-scale solar projects can create a large footprint on the landscape and do not directly contribute to the local economy or provide jobs for the community over the long-term in a way that a comparably sized manufacturing or commercial facility would. But it can be argued that these projects do contribute to the power grid and may reduce overall rates and can be designed for minimal visual and environmental impact. Certainly, property purchase and lease payments to property owners have been seen to meet and supplement, if not surpass, revenues from agricultural and forestry activities, and increased tax revenues from projects can be used to address public funding gaps and cost increases, deferred maintenance of infrastructure or facilities, or fund other projects or expansion of services in the community that may contribute to the overall quality of life.

Future Land Use Considerations

The County will consider utility-scale solar facilities, through the review of a Special Use Permit, in the Rural Farm (RF) and Industrial (IND) zoning districts only. In addition to the regulations and standards for utility-scale solar facilities within the Zoning Ordinance (See Map 14.1 Utility-Scale Solar Siting Considerations), and requirements and standards applicable to the consideration of all Special Use Permits as outlined in Article 5 of the Zoning Ordinance, Special Use Permit applications for utility-scale solar facilities must be evaluated based upon the

following criteria. Conditions may be imposed upon individual Special Use Permits to ensure consistency with these criteria, compliance with regulations and standards contained in the Zoning Ordinance, and/or to mitigate potential or anticipated negative impacts associated with the design or location of a facility; individual Special Use Permit applications may be denied where one or more of these criteria cannot be met, outright or through the imposition of conditions.

1. Active components (i.e., solar panels, substations, inverters, and the like) or developed features (i.e., fences, gates, maintenance/operations buildings, etc.) of utility-scaled solar facilities shall not be in such close proximity to, in their location or design, the following so as to negatively impact their use, value, or importance individually or to the County:

    a. residences;
    b. historic, cultural, recreational, and environmentally sensitive areas and resources; and
    c. scenic view-sheds and vistas.

2. Facilities, including fencing and support equipment, should be significantly screened from the ground-level view of adjacent properties and rights-of-way by a buffer zone at least 150 feet wide that shall consist of natural vegetation and landforms and/or be landscaped with plant materials consisting of an evergreen and deciduous mix at least six feet in height at the time of planting. Landscaping materials should be native to the County and exclude the use of invasive species. Additional screening and/or setbacks may be proposed or required to mitigate for the potential impacts of a project owing to the location or design.

3. Scenic view-sheds and vistas are important recreational and economic resources for the County, and the location and design of facilities should not detract from the existing value, aesthetics, or rural character of view-sheds or vistas.

4. A minimum distance of two miles should be provided between utility-scale solar energy facilities.

5. Solar panels included as part of the same facility should be required to be sited on contiguous parcels to limit fragmentation and preserve rural character.

6. The area of solar panel coverage for any single solar facility project may not exceed 65 percent of the total acreage of the project.

7. Facilities should avoid development of areas of Forest Conservation Values or Ecological Cores rated high to outstanding as defined by the Virginia Department of Conservation and Recreation and/or another equivalent state department.

8. Facilities should avoid development of areas identified as Class III, Class IV, or Class V for agricultural suitability as defined by the Virginia Department of Conservation and Recreation Agricultural Model and/or areas actively farmed within two years preceding an application, unless portions of the parcels utilized for the facility will continue to be farmed.

9. Wildlife corridors should be incorporated in the design of facilities and the latest guidance of state environmental departments should be considered; for instance, the Virginia Department of Wildlife Resources has Solar Energy Facility Guidance which includes recommendations for wildlife passages and fencing.

10. Facilities should be located a minimum distance of 1 mile from any Town or City boundary, or from properties in the Rural Residence (RR), Highland/Recreation-Public (HR-P), or Shoreline Recreation (SR) zoning districts.

11. Facilities planned for transmission line interconnection, as opposed to those to be connected into the local distribution network, should be located within 2 miles of transmission line corridors. Any generation lead lines (gen-tie) lines should be located underground or buffered to block visibility from roadways.

12. Facilities should provide maximum economic benefits to the County as demonstrated by thorough economic analysis.

Utility-Scale Wind Facilities

While Grayson County does not currently have any large- or utility-scale wind energy facilities, there is interest in siting facilities within the County given the potential viability based upon wind resources. Similar to utility-scale solar facilities, utility-scale wind facilities can have a significant impact on the landscape, however, different from solar, this is due to the height and number of turbines, as well as elevated siting needs, all of which combine to increase their visibility. Based upon these potential impacts, utility-scale wind facilities are not considered to be an appropriate land use in the County and should therefore be prohibited.

Map 14.1 Utility-Scale Solar Siting Considerations