

DEVELOPERS' SITING CONSIDERATIONS

Many factors go into a developer's selection of a site for renewable energy development, with economic factors playing a primary role. Developers should seek to comply with the principles in this guide when considering potential sites in order to help streamline the predevelopment and review processes and minimize environmental impacts.

- **Solar or wind resources:** The first siting consideration is the presence of high-quality renewable resources—i.e., what is the insolation (the rate of delivery of direct solar radiation per unit of horizontal surface), or how many hours per year will wind speed be adequate to drive a wind turbine? For solar, a developer will consider a site's aspect and slope—which direction a slope faces, how steeply the land pitches. South-facing slopes with a low gradient are optimal. A wind project's energy production and life-cycle economics depend on wind strength. To be attractive for development, annual average wind speed should be 14.5 mph, or 6.5 meters per second or stronger at a wind turbine's hub height. Some projects may require stronger average winds to realize economic viability.
- **Grid connection potential:** Scarcity of places to connect with the electric grid is the most limiting factor for siting. Costs to interconnect are high: upgrades approach \$1 million per mile. Utilities can provide a circuit map with baseline circuit and substation information to screen available circuits (as opposed to specific interconnection points). The developer must determine whether a parcel along a potentially viable circuit can host a solar array, and pay for both engineering studies and upgrade costs.
- **Land area:** The site must be able to support a project of sufficient size to offset interconnection costs. A site also must be available for the life of the project—e.g., 30-plus years.
- **Access:** Routes must be sufficient for both transportation and utilities. In addition, the necessity of acquiring a right of way or easement must be assessed.
- **Costs:** Financial considerations include the cost of land and site preparation, as well as fees for geotechnical surveys and the approval process.
- **Form of land control:** Developers may choose whether to purchase or lease a property.
- **Tax treatment of the constructed project:** Under New York Real Property Tax Law § 487, there is a 15-year real property tax exemption for properties with renewable energy systems (including solar systems), which applies to the value a solar electric system adds to the property's overall value. Under the law, jurisdictions may negotiate payments in

lieu of taxes (PILOTS), whereby the tax burden and rate uncertainty is reduced, but some of the forgone revenue from property taxes are preserved. A jurisdiction may opt out of the exemption and tax large projects at full value. This may make smaller projects economically unviable. More info: *Understanding the Real Property Tax Law § 487* (training.ny-sun.ny.gov/29-resources/targeted-resources-for-municipal-officials/planning/129-nyseia-webinar-understanding-the-property-tax-exemption-for-solar-in-new-york)

- Land characteristics: Constraints presented by factors such as the environmental setting, applicable zoning, deed/gift restrictions and the presence of conservation easements must be assessed. For solar in particular, an assessment must include potential for soiling risks of the panels and the availability of water supply for any necessary washing. Developers seek sites that are relatively level and flat (to minimize grading requirements and maximize sun exposure) as well as open and free of woody vegetation (to minimize site clearing and shading). In addition, a developer might consider whether a site is capable of being screened from public view and is marginal or sub-prime for agricultural or other uses based on location, soils, drainage, etc.