

TCRPC

Planning Toolkit Fact Sheet

Wind Energy Facilities



INTRODUCTION

Wind energy facilities (sometimes known as wind farms, wind parks, or electrical generating stations) are a power plant that uses wind turbines to generate electricity. Wind energy facilities can be used to convert mechanical power into electricity to power homes, businesses, and schools. They are usually located on top of a mountain or other windy places to take advantage of natural winds. Communities with lots of agricultural lands also tend to have increased growth in wind generation because they are able to support utility scale wind projects that require large amount of open land. Wind power is a popular sustainable, renewable source of power that has a much smaller impact on the environment compared to burning fossil fuels.

There are two different types of wind energy facilities that are most common today:

Principle wind energy facilities- is an electric generation facility comprised of a group of wind turbines and associated control/conversion/ distribution equipment and structure whose main purpose is to supply electricity for commercial use.

Accessory wind energy facilities- is an electric generation facility comprised of a wind turbine, tower and associated control, conversion, distribution, equipment and structures constructed primarily for generation of electricity for onsite uses.

BENEFITS

- These new opportunities within municipalities can increase revenue in the form of construction jobs and land lease payments to residents
- Wind projects provide secure income for farmers experiencing decreased income stability due to fluctuations in weather and commodity prices
- Wind Energy is 100% pollution free energy source, providing a reliable and sustainable supply of electricity without contributing to air pollution

As more and more wind facilities are built closer in proximity of residential housing, policies regarding the siting of these facilities has become increasingly important. Most utility scale wind turbines typically range from 1.5 to 3.5 megawatts with an average install size of 2.2 MW. In the State of Pennsylvania, wind facilities are addressed through local government regulations. This gives local government the authority to plan and regulate where wind facilities can be installed and how many can be put on each lot.

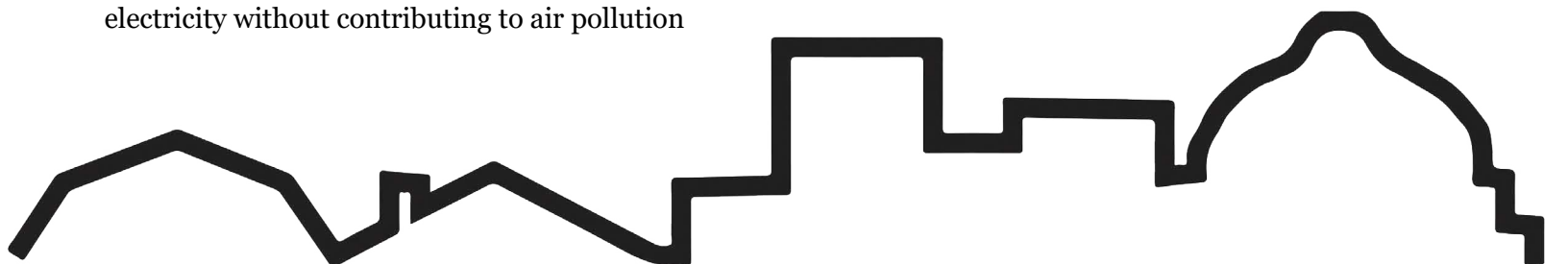
Municipal ordinances reflect the local needs and preferences regarding wind turbines within their limits. They should regulate bulk requirements of the equipment, setbacks, and fall down zones, tower heights, lighting, and noise standards. Also included should be a list of zoning districts in which each piece of equipment can be constructed as a permitted, conditional use, special exception, or is prohibited from the area. Finally, Provisions should be made for construction standards, inspection and decommissioning of the equipment.

DRAWBACKS

- Wind energy facilities are not commonly addressed in existing municipal ordinances
- Enforcement of design and construction standards may require significant resources and can become expensive for local municipalities
- No set regulations from the state level, so it is all up to local government and municipalities to regulate them

PRACTICAL TIPS

- Identify appropriate locations for commercial facilities before approving of any wind energy facilities.



RESOURCES

- **Middle Paxton Township- Dauphin County**
- **TCRPC Wind Energy Model Ordinance**
- **Model Ordinance for Wind Energy Facilities in Pennsylvania**
- **Wind Energy Ordinances- US Department of Energy**

RELATED TOOLKIT FACT SHEETS

- **Solar Facilities**
- **Green Building Standards**

