

EFFECTS OF WIND POWER PROJECTS ON TILLABLE FARM LAND

PERMANENT EFFECTS

- Wind turbine towers and concrete pads
- Roads connecting tower strings
- Junction boxes for underground transmission lines
- Transmission towers and poles for overhead power lines
- Orphaned lands
- Substations
- Division of farm fields by roads
- Water erosion caused by roads
- Permanent MET towers
- Office and maintenance buildings, surrounding area
- Weeds along borders of roads, towers, junction boxes etc.
- Impediments to aerial spraying
- Public trespassing

INTERMEDIATE AND UNDETERMINED LENGTH EFFECTS

- Compacted and disturbed areas
- Wind erosion
- Underground transmission lines

SHORT TERM EFFECTS

- Destruction of growing crops
- Seed bed degradation on summer fallow-prevented planting
- Temporary MET towers
- Fire danger during construction in mature crops
- Survey stakes to farm around

PERMANENT EFFECTS-expansion on bullet points

Impacts of the permanent effects for fixed structures generally offer no solutions. The creation of these structures and roads divides the fields creating smaller, less efficient tracts. The configuration of a wind farm creates large borders along roads for the small number of acres

removed from farm use, as opposed to a contiguous piece of ground. Therefore the impacts are greatly increased which should be addressed for this use.

The effects of roads on water erosion will be significant. Terrace systems in fields are not compatible with roads that must be able to handle trucks and cranes to traverse. Some gradient terraces had culverts inserted but these can easily plug causing the structure to fail at that point. Level terraces can be stopped at the road but the road itself remains unprotected and run off generated from a gravel road is far greater than from the field.

MET towers are towers that collect wind data that helps in the siting of towers. They are placed in the fields prior to siting and construction of the wind turbines. No roads are installed to access the towers, so during construction or maintenance, access is from the nearest county road. The two towers that are on ground we farm are ½ mile and one mile from the county road. Tenants have not been reimbursed for the MET towers. Most are temporary but not all as a few remain after the project is complete.

Weeds along the borders of the towers and roads is an issue that must be addressed prior to construction or they can present a problem for the ag operations. If weeds are controlled in a timely manner then no conflict exists. Weed control in the fields adjacent to the towers creates a problem as pilots are reluctant to get to near the structures or to spray when personnel are present. This can create an issue of timeliness and total coverage of the acreage.

The public is drawn to the towers and a steady stream of visitors come on a regular basis. They drive down the roads through the fields which can cause problems on many levels. No signs are posted at the entrance off the county roads.

Orphaned lands are created when tower roads intersect and are in close proximity to county roads and property boundaries. These parcels are too small to farm effectively so in many cases are abandoned.

INTERMEDIATE AND UNDETERMINED LENGTH EFFECTS-expansion on points

Areas that are disturbed and compacted during construction need to be rehabilitated over time to regain the original fertility and productivity that the soil had before the project. Deep ripping can help the compaction

but not totally alleviate the problem. In summer fallow, the seed bed is destroyed and it is impossible to get an adequate stand of grain which compounds the problem. Wind erosion is an issue as no residue remains on the soil surface. The time needed to regenerate the soil to it's original condition is hard to estimate as a variety of factors are involved. The same remains true, to a lesser degree, for the underground transmission lines, as they are not disturbed as much.

SHORT TERM EFFECTS-expansion on bullet points

In the growing crops most areas in the construction zone are destroyed. The companies have reimbursed both landowner and tenant for their loss. On the summer fallow side no reimbursement have been made for reduced yields the following year.

Temporary MET towers and the area taken up by the guide wires remain out of production until removed. Weeds on the site are not controlled by the company. Landowners are paid per tower but not the tenant is not.

Fire danger needs to be addressed as crews coming into the job site are not aware of the hazards involved in driving vehicles through mature standing grain. Making the crews aware of the problem from the management should greatly reduce the likelihood of a fire.

Survey stakes in the summer fallow fields are a problem for the farmer. If you see them and work around them, that takes time and costs money. If you don't see them and run over the stakes then they need to be put back if need be causing a conflict between the construction crew and the farmer.

I hope this helps quantify and qualify some of the problems encountered on a wind farm project in tillable ground.