

TOPIC	Summary Statement	Potential Action for Discussion
Economic Implications for land owners & County	There are many positive economic benefits of wind turbines. Leaseholder receive substantial monthly income over a long period of time. Construction brings work and spending within the County as well as long term employment for a few employees to monitor the turbines. The owner of a wind energy generation facility must pay a nameplate capacity tax equal to the total nameplate capacity of the commissioned wind energy generation facility multiplied by a tax rate of \$3,518 per megawatt. In Custer County, NE, a facility with 50 turbines, this amounted to \$280,000 per year divided among the various tax jurisdictions in the county. The state does not retain any of the proceeds for administration.	No specific text. (Lancaster County and its residents will benefit by permitting commercial wind energy projects if there is adequate protection of adjacent property owners and residents.)
Environmental implications	There is no significant impact on air or water resources. Footprint of any one turbine on land is relatively small. The University of Nebraska and the Nebraska Game and Parks Commission have developed a Nebraska Wind and Wildlife map which identifies the relative sensitivity of biological populations in Nebraska. Lancaster County is shown as an area of low sensitivity, however there are biologically unique areas within Lancaster associated with the Eastern Saline Wetlands which should be protected. Wind turbines do result in bird deaths, but it is relatively less nationally compared to cars, buildings, power lines, communication towers, agricultural chemicals and cats.	Require that turbine construction not impact identified rare or endangered natural resources such as saline wetlands, native prairie and grasslands.
Shadow Flicker	Shadow flicker is the phenomenon caused by the moving shadow of the wind turbine blades moving over a point. The area where flicker is experienced moves as the sun's position relative to the ground changes throughout the day and season to season. It would be at the peak in winter months.	Require that shadow flicker shall not fall upon any dwelling, or other building which is occupied by humans, for more than 30 minutes in any one day, nor a total of 30 hours per any calendar year. Any proposed CWECs tower which is within half mile of any non-participating dwelling shall provide shadow flicker modeling data showing the expected effect of shadow flicker on non-participating properties. If shadow flicker exceeds these limits, measures shall be taken to reduce the effects of shadow flicker on buildings, which may include shutting turbines down during periods of shadow flicker.

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Ice Throw	Ice throw is the phenomenon of ice, which builds up on turbine blades during particular meteorological conditions, being “thrown” from the blades as they turn or being blown from the blades as they are stationary. Most modern turbines are able to detect vibration of turbine blades that can be caused by a build-up of ice and are programmed to shut down in such conditions in order to address safety issues and to protect equipment from damage.	No specific text. (New turbines are better designed to minimize and monitor ice on the blades. In addition, setbacks to the property line and right-of-way are substantial so no separate setback for ice throw is proposed.)
Important view corridors	Concern was expressed about wind turbines blocking the view to the State Capitol. Also concern about views from the Homestead National Monument (in Gage Co.), Nine Mile Prairie or Spring Creek prairie. There were opinions for and against having wind turbines along entryways into Lincoln. Some stated that they didn’t want their personal view from their house diminished by views of turbines. However, views from personal property can be altered by an adjoining property owner erecting accessory buildings or antennas or planting trees on their own property, though these would not be near the size of a wind turbine.	Require that no CW ECS shall obstruct or impair an identified view corridor or scenic vista of public value, as mapped on the Capitol View Corridors map in the Lincoln/Lancaster County Comprehensive Plan. The views from prominent environmental areas such as Nine Mile Prairie and Spring Creek Prairie should also be protected from nearby intrusions. Those CW ECS proposed which, upon initial review, pose a possible impact to these views will be required to be relocated or provide view shed mapping, and visual simulations from key observation points for review.
Impact on development and subdivisions	It is possible that a non-participating vacant parcel could be significantly impacted by the noise of the turbines and fall within the turbine setbacks. The owner of the vacant parcel could still legally build on their lot, but the enjoyment of the parcel, particularly a smaller parcel could be reduced.	Require that lots, which because of the location of a CW ECS are left with little land outside of the CW ECS setbacks or the noise impact area, must be part of a contractual agreement with the CW ECS owner/operator. There should be a standard that for vacant farm lots over 10 acres so that the area of the lot outside of the noise contours and setbacks is substantial. This will allow the owner of vacant land to have some choices in location on which to build a house outside of the setbacks and noise contours if they wish.

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Impact on property value of adjacent land	<p>There is considerable debate about the impact of wind turbine projects on adjacent land values. There are so many factors that go into the value of a house and land that it is difficult to isolate individual elements. Certainly not everyone wants to live near to a wind turbine, so the number of potential buyers would be reduced for small acreage lots. Particularly in an area with many available lots or homes, some buyers will not want a lot nearer to a wind turbine.</p> <p>Many acreage owners specifically moved onto an acreage to be further from the urban environment. However, even in a rural area, adjacent owners have the right to run machinery, build large accessory buildings that obstruct views and conduct farm operations late at night. So an acreage lot doesn't guarantee a quiet setting and unobstructed views.</p>	<p>Wind turbines can have more of an impact on the enjoyment and market for small acreage lots when compared to large farm parcels. Thus, the setback to a nonparticipating residential acreage lot under 10 acres should be larger than the setback to a farm property of more than 10 acres.</p>
Public road improvements needed for construction	<p>In some jurisdictions, wind developers have rebuilt bridges, roads and intersections, under government supervision, in order to carrying the required loads during CWECs construction. This was the experience in Gage County where the developer worked in advance with government officials on the routing of construction equipment and necessary improvements. After the towers are built, the impact on the roads is minimal.</p>	<p>Require that prior to building permit, the applicant enter into an agreement with the County Engineer regarding use of County roads during construction.</p>
Decommissioning of wind towers	<p>There is currently a requirement in the Lancaster Co. zoning resolution for decommissioning plans, requiring removal of structures and restoration of land, as well as a requirement to post bonds that will assure the restoration work is accomplished. The method of removal and restoration is not specified, nor is a definition of when "discontinuance, decommissioning or abandonment" has occurred and this removal would be required. In a review of model language in other jurisdictions, the specificity of these requirements varies widely, with some jurisdictions providing boiler plate language which is customized by the developer. Decommissioning plans are also often a part of the private lease agreements entered into with land owners.</p>	<p>Continue to require decommissioning plans for the removal of the tower itself and that four feet of soil is between the ground level and cement base. Allow up to one year before requiring removal to allow time for consideration of options after turbines cease operation.</p> <p>Removal of the access roads on private property would be left to the developer and property owners. Some property owners may wish to retain the access roads on private property.</p>
Other enforcement	<p>The Building and Safety Department is the primary regulatory</p>	<p>No change necessary in enforcement, other than in</p>

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and regulations issues	agency of the County Zoning Resolution. The County Board can revoke any special permit if the conditions of approval are not being met. Building and Safety often relies upon complaints received from the public to determine when investigative action needs to take place and possible enforcement action taken. In some cases, permit holders must make annual reports to Building and Safety providing specific information on the operation and activities of the permit site. Currently, the special permit rules could require 20 or more separate special permits which will be difficult to process.	handling of noise complaints which will be addressed in noise regulations. Allow that in the cases where CWECs are part of a unified plan for a wind farm, parcels which are separated from one another only by the presence of public right-of-way may be combined into one special permit application. When a CWECs special permit covers multiple premises, the lease or easement holder may sign the application rather than the lot owner.
County Liability for approval of wind turbines	The County Attorney's Office determined that was no case law that would indicate a cause of action would exist against a County for issuance of a special permit for a wind turbine site that has a later accident. Additionally, the Political Subdivision Tort Claims Act enumerates an exemption to political subdivision liability if the claim is based on "the issuance, denial, suspension, or revocation of or failure or refusal to issue, deny, suspend, or revoke any permit, license, certificate, or order." In the event the County was ever named in the type of law suit mentioned, this would undoubtedly be raised as a defense.	No specific text necessary.
Emergency Response to turbine fire	Some have suggested banning crops under turbines due to potential for lightning strikes and fires. This would significantly reduce the cropland area around a turbine. The risk of lightning strike and crop fire is not significantly more than other lightning strikes to warrant the significant increase in cost of wind turbines and resulting loss of crop land.	No specific text. (Local volunteer fire departments and wind turbine operators should meet to discuss plan for if a turbine caught fire.)

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Lighting	<p>There was concern expressed about flashing lights on top of a turbine. Any structure above 200 feet tall must be reviewed by the Federal Aviation Administration for obstruction analysis. The FAA, and other relevant Federal agencies, make a determination if the structure impacts private or commercial airspace. If it is determined the project constitutes no-hazard to air navigation, it will also analyze the project as a whole and provide its recommended lighting requirements. Prescribed lighting is typically a slow blinking red light. In addition, newer technology is in development and subject to FAA approval with radar-activated lighting, which can detect aircraft presence and thus vary the lighting and intensity according to the need.</p>	<p>Require that CW ECS shall have only the lighting required by the Federal Aviation Administration or other federal agency.</p>
Color and Finish	<p>The appearance of the wind turbines mostly related to height and size. However, most ordinances have some standard prohibition against turbines being used for advertising or bright colors to attract attention.</p>	<p>Require that CW ECS shall be finished in a white, gray, or another unobtrusive color with a non-reflective finish. There shall be no advertising, logo, or other symbols painted on the CW ECS other than those required by the FAA or other governing body. Each CW ECS shall have onsite a name plate which is clearly legible and contains contact information of the operator of the wind facility.</p>
Applicable codes	<p>CW ECS must meet all applicable electrical, building utility tie in codes and other local, State and Federal rules and regulations.</p>	<p>No specific text. (Local regulations require that CW ECS must all applicable electrical, building codes and other local, State and Federal rules and regulations.)</p>
Interference	<p>A CW ECS must not interfere with established radio or microwave signals. Most wind projects hire a company which maintains a database to report on potential impact of the project on any non-federal government microwave systems. In addition, projects provide their layout to the United States Department of Commerce – National Telecommunications and Information Administration, for review by appropriate federal agencies to identify any concerns regarding blockage of radio transmissions.</p>	<p>No specific text. (No need for local regulations since this concern is handled at federal level.)</p>