



Lifecycle Costs Committee Statements

STATEMENT REGARDING FINANCIAL ASSURANCE: We believe Linn County should include a Decommissioning Agreement in Linn County code for utility solar facilities. The attached Decommissioning Agreement for Plymouth Wind Energy provided by EOR can be used as a template. Linn County should consider the following forms of financial assurance for renewable energy developers: surety bond, bank letter of credit, and stable parent company guarantee. The type of financial assurance should be at the Board of Supervisors discretion.

- After reviewing financial assurance instruments, we recognize a need for financial assurance to provide Linn County with the financial resources to achieve decommissioning and restoration of the facilities when the owner/operator has not or will not successfully complete the decommissioning and restoration process.
- We accept the fact that 100% financial assurance may not be required at the beginning of the project. However, we feel that some financial assurance at the beginning of the project is required to assure completion of the project in case of abandonment or other circumstances where the project owners do not complete the installation of the facility. Therefore, there should be a requirement of financial assurance at the beginning of the project.
- According to EOR's research, a common approach is to require the entire financial assurance to be obtained halfway through anticipated project life or by year 15 from start of operations (whichever comes first), with re-evaluations of the financial assurance amount every 5 years, increasing the financial assurance amount as needed.

STATEMENT REGARDING DECOMMISSIONING COSTS: We believe a new determination of decommissioning costs should be made every 5 years and should be performed at the Facility Owner's/Operator's expense by a licensed Iowa engineer approved by Linn County. This effort should include but not be limited to changes in the regulatory environment, equipment modifications, market considerations, and recycling/salvage technologies.

- We feel that the current Linn County ordinance wording is not specific enough to require project owners to prepare correct adjusted decommissioning cost estimates over the life of the project.
- The current wording is: "The cost basis shall include a mechanism for calculating adjusted costs over the life of the project." This wording allows the project owner to determine the "mechanism." As such, costs may merely be "updated," which to a cost engineer means the costs are to be revised according to changes in local markets and inflation.



- “Updated” does not include reassessing the original assumptions made to develop the cost estimate. Therefore, any regulatory change, change in recycling or disposal options, or changes based on age of equipment may not be assessed, and the decommissioning cost estimate will no longer be accurate. Re-evaluating the decommissioning costs every five years appears to be the industry standard based on other solar projects and ordinances.

STATEMENT REGARDING REMOVAL OF EQUIPMENT: We feel that the decommissioning plan should identify the depth at which all underground equipment and wiring will be removed (with a preference to remove all, unless the landowner does not desire this) and the decommissioning costs calculated accordingly. The location of any remaining underground equipment will be recorded with Linn County by the entity that verifies decommissioning has been completed.

- The committee has concerns that the existing code does not provide enough guidance to ensure that adequate funds for decommissioning will be available given the ambiguity of the depth at which underground equipment will be removed. Additionally, there are concerns that not removing the underground equipment may affect future farming practices.
- The decommissioning plans for the currently approved utility solar projects were not clear regarding the removal of all underground equipment. Some wording suggested the possibility of cutting metal posts and removing them only to 5 feet below ground.

STATEMENT REGARDING DEFINING ABANDONMENT: We believe Linn County should incorporate a definition of “abandonment” into Linn County code for utility solar facilities based on recommendations provided by EOR in their memo under 5(e) on page 4.

- We feel that because the current code needs a clearer definition of abandonment, the County should define what constitutes abandonment and at what point the decommissioning process should begin.
- Currently, the ordinance states (in paragraph D) that after a year of no electricity generated, decommissioning can begin. The EOR memo includes abandonment definition recommendations on page 4 under 5(e).(below).
 - “Some state/county ordinances state if the project isn’t producing electricity for a year, the project is “abandoned”. We do not recommend that, as some solar farms are back-up facilities, producing energy only on days with high electrical demands. Just because a facility isn’t presently producing electricity, doesn’t mean it isn’t being used as a backup facility. Abandonment can be defined in the ordinance, decommissioning agreement, and or the FA document. Abandonment could be defined as occurring (i) upon termination or expiration of the solar farm leases/easements or (ii) after one year without production, storage of energy, or use as a backup facility. Exceptions could be made for (i) a force majeure event that has occurred or is occurring, which will prevent the facility from resuming operation within 12 months, (ii) if the facility is in the process of being repowered,

(iii) project pending completion of construction of the facility due to a backlog of cases or service requests in the MISO queue, (iv) a situation in which the project owner can provide evidence to the county board of supervisors, that the facility's period of continuous inactivity is due to circumstances beyond the project owner's control and that the facility has not been abandoned, or (v) appeal of the notice of abandonment from the county within a set time of the project owner's receipt of the notice in which the project owner explains the reasons for operational difficulty and provides a timeframe for corrective action that the county deems reasonable."

STATEMENT REGARDING BESS REQUIREMENTS: Linn County should not include a BESS in the Renewable Energy Overlay. A BESS should have a separate application and be subject to a Conditional Use Permit.

- Given the difference in the mechanisms of construction, operation, and decommissioning for BESS as compared to the rest of the solar arrays, we feel that any BESS requirements should be identified separately from the solar arrays
- The BESS property will not be restored to an agricultural or critical natural resource use in the same timeline as the solar arrays. Jon Gallagher estimates it will take 30-50 years after decommissioning to return soil on a BESS property to agricultural-ready. Decommissioning for BESS should have separate requirements, and the land on which it is located should have to be restored in a different and appropriate manner corresponding to the impact it has on the land (decompaction, etc.).

STATEMENT REGARDING STAFF RECOMMENDATIONS FROM PREVIOUS PROJECTS: Many of the provided recommendations have a cost associated with them. All conditions and comments/recommendations listed in the current staff reports for Duane Arnold JR22-0004 and JR22-0005 and those submitted by Iowa DNR may be required as part of the application process for utility solar facilities, unless they are duplicative of existing ordinances.

- We feel that Linn County staff have identified many comments and recommendations that should be included either in the application process or the ordinance itself.
- These Recommendations were identified in the Coggon, DAS I and DAS II Linn County staff reports. To save redundant efforts and communicate county expectations, a checklist would be helpful and easier to revise/update than including these items in an ordinance.

**This statement received support from 4/5 committee members*

STATEMENT REGARDING DETERMINING COMPLETION OF DECOMMISSIONING: A Linn County representative should verify that the decommissioning has been completed to the County's satisfaction and the ground has been returned to an acceptable condition.

- We feel the decommissioning process needs “check and balances”. We feel that decommissioning must be completed to the County’s satisfaction and a County representative should verify that ground has been returned to an acceptable condition.
- Because utility solar projects are new to Linn County and there is little experience regarding decommissioning of these facilities, it is likely that the application process has inadvertently missed issues that will need to be addressed. For example, Jon Gallagher. pointed out that the decommissioning cost estimates do not appear to include filling the voids created from removing the pilings.

STATEMENT REGARDING HAZARDOUS MATERIAL: The decommissioning plan should identify any hazardous materials used at the facility, both at the time of construction and during any repairs, replacements or other renovations, according to EPA's standards at the time of construction, installation, repair, replacement or renovation. The decommissioning costs should take into consideration the financial impact of using hazardous materials. The timing of when hazardous materials are identified will impact the overall lifecycle costs associated with the project.

- The committee has concerns that the current ordinance does not adequately protect the County against current or future changes to hazardous material classifications as defined by organizations like the EPA. A TCLP test at various stages of the project (installation, decommissioning cost updates, panel replacement, etc.) would help to mitigate these risks. The timing of the tests will be at the discretion of the Board of Supervisors.

**This statement was voted on with 3 committee members supporting it.*

Lifecycle Costs Committee Research/Sources:

Shared by Jon Gallagher

- http://macog.com/docs/sustainability/solar_energy/Pollinator-Friendly-Solar-Guide-Version-1-1.17.2020.pdf
- <https://www.cfra.org/sites/default/files/publications/native-seed-supply-and-seed-mixes-for-pollinator-friendly-solar.pdf>
- <https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=44419.wba>
- https://drive.google.com/drive/folders/1DKISMzpVpt_inZv27AYe8XdNjrHI7M-Q

Shared by Committee

- <https://scdhec.gov/sites/default/files/Library/OR-1695.pdf>
- <https://play.champds.com/ATT/guilderlandny/2021-04/e65de27ac5f8588adb88c7db9198b7a6465556db.pdf>
- https://energytransition.coopercenter.org/sites/cleanenergyva/files/2022-08/SolarDecommissioning_FinalReport_2022-08-30.pdf
- <https://iibec.org/giving-tornadoes-their-due/>

- <https://www.nrel.gov/docs/fy20osti/76045.pdf>
- <https://centerforlocalpolicy.org/additional-thoughts-on-renewable-energy-system-decommissioning-a-review-of-the-center-for-rural-affairs/>
- https://www.cfra.org/site-search?cx=372153086e60d4fbb&cof=FORID%3A11&keys=solar&op=Search&form_build_id=form-iVr7Zbo76E3IEI9RDFSzKbOyc5nML9tGJa7QEvcYLYs&form_id=google_cse_search_box_form
- <https://www.otpco.com/media/3590/cup04-2021-05-28-hoot-lake-solar-decommissioning-plan.pdf>
- https://eplanning.blm.gov/public_projects/nepa/100498/20010847/250013875/508_FIN_AL_DRAFT_Gemini_Solar_Draft_Decommissioning_Plan_122019.pdf