To Pueblo County Planning Commission:

Within the proposed solar ordinance, **there are five items that, if any are enacted, will kill existing and future projects**, effectively taking the County off the map for solar development.

Those items are:

- **Requiring 1041 for all projects above 1 acre.** This will eliminate all smaller, community solar type projects. COSSA thinks it should be much bigger (100 acre minimum) for planning review of this type. A Use by Special Review permit is more appropriate for projects less than 100 acres.
- **Lot coverage of any amount.** Limiting solar on lots will just turn land into a checkerboard, with multiple lanes or alleys of land with no use. This will lead to weed growth.
- **Required to be located one mile from "The boundaries of Pueblo West and Colorado City Metro Districts" or "Any defined city, town or other community boundary:".** This distance is arbitrary. There are individual projects that may need to be further out, but many, including the Bighorn project at Evraz or the solar at the Comanche generating station would fail this requirement.
- **Requiring projects to be more than one mile from other solar projects.** This would then require a lot more electrical infrastructure to be built, especially short, high-voltage transmission lines.
- **1 acre as minimum size for 1041 process.** Multiple smaller projects that would serve San Isabel or Black Hills are in the pre-development phase. However, these projects would only be 10-20 acres and don’t have the financial capacity to support the expensive and intrusive 1041 process.

Additionally, there are many other items that would **make Pueblo County less competitive** vis-à-vis nearby counties.

- **Maximum project size by total acres:** This won’t deter bigger projects. It will just add cost for additional permitting.
- **Requiring setbacks AND buffers:*** Setbacks and buffers are appropriate for solar facilities. However, requiring both makes less land available for development. This means solar developers must lease more land and it makes the project more expensive.
- **Requiring an interconnection agreement before processing application:** The interconnection agreement is often provided by the utility months after a permitting process would begin.
- **Requiring a decommissioning bond when the project is energized (not when PPA ends):** Oversight of decommissioning solar is appropriate for Counties. However, requiring a large amount of money up front when the project is generating revenue under a long-term contract just adds cost as the developer has to pay someone on Wall Street to hold the bond.
- **Not allowing salvage value to count toward decommissioning bond:** Solar facilities’ raw materials have value (otherwise it wouldn’t be called salvage value). However, not including that in the decommissioning bonding drives up costs for the developer.
- **Usurping the landowner's ability to be the final sign off on decommissioning:** This puts a solar developer in a bind about who has final authority. It can also deter landowners from leasing land to developers.
- **Requiring landscaping that requires water or irrigation:** Pueblo County is a high desert. Requiring landscaping that requires water is a huge cost as developers will need to drill for water, acquire water rights, or buy water on the open market.
Finally, there are several items which will only make **more work for the Pueblo County Planning office**. COSSA has heard that the Planning office is already overworked, so adopting these items will only add to that workload.

- Requiring unnecessary plans for odor, noise or other concerns not present during normal operations.
- Requiring a wildlife plan when they are not applicable according to appropriate state agencies.
- Requiring an additional or separate 1041 application for a Battery Energy Storage System (BESS), if attached to a solar facility.

COSSA continues to want to work with Pueblo County to find solutions to concerns about future solar development there. We believe a highly targeted stakeholder group could reach a consensus in a relatively short period of time.

Attached is a map of the impact of this new ordinance on Pueblo County. These changes would strict solar to only 12% of the County, before landowners and local stakeholders had a chance to weigh in on specific projects.

Sincerely,

Mike Kruger

CEO

Colorado Solar and Storage Association

202-631-7439
September 20, 2021

Carmen Howard, Director
Pueblo County Planning and Development
229 W 12th St
Pueblo, CO 81003

Dear Ms. Howard,

My thanks to you and Darren Coffey for taking time to meet with me concerning the County solar guidelines. I apologize for providing you with this letter after the deadline for public input for the September 22 public meeting on the regulations. I understand that my comments here will not be included as part of the public input for the text amendment, but I wanted to follow up with a bit of additional information for you and Mr. Coffey, perhaps as part of the implementation process for the regulations.

I am basically in support of the modifications to the draft regulations resulting from the August 18, 2021 Planning Commission Work Session, to include:

1. Increasing the maximum allowable size from 2,500 a. to 5,000 a.;
2. Increasing the panel packing cap from 65% to 80%;
3. Removing the 1 mi. buffer from Comprehensive Plan Development Action Areas;
4. Allow use by review of facilities within 1 mi. of existing facilities;
5. Allow longer distances than 1 mi. from transmission lines.

As I mentioned to you in our meeting, I have examined several of the principal guiding policy documents for utility scale siting guidelines in the western U.S. that Mr. Coffey may not have reviewed in developing his recommendations. I think you will find these resources to be useful as you fine-tune the text amendment. They include:


Pursuant to my review of these policy frameworks, and in response to a number of issues raised in our discussion, I have several recommendations for your consideration.

I. **Stormwater and Vegetative impact:** I find little support for Mr. Coffey’s assertion that stormwater management is the central concern in establishing regulations for packing densities of panels in large solar farms. The concerns raised about stormwater in California’s *Desert Renewable Energy Conservation Plan* (the most respected framework emerging from the conservation community) focus on care in the developer’s grading and reclamation plans, rather than panel density. When water falls off a row of 3’ x 5’ panels, it can form rivulets at the base of the row, and these should be managed by establishing maximum slope requirements beneath the site. But there are hundreds of such rows in a solar farm, and each produces a small sheet runoff into permeable soil. Solar farms are treated as permeable surfaces (NOT like parking lots) by SEIA, the Bureau of Land Management and NREL, and runoff seeps into prairie soils unless the site gradient is too steep. *This reasoning supports the planning commission’s decision in the revised regulations to increase maximum density to 80% coverage, instead of 65% coverage.*

II. **Vegetative Management:** The primary impact of a solar farm to vegetation is shading. Shortgrass prairie plants are sun-loving, and shade above a certain proportion will kill the plants and permit invasive species to colonize (DRECP, Biological Resources section). However, many invasive species (noxious weeds) are also sun-loving colonizer species which have more difficulty establishing themselves on shaded sites. If the original plant communities are removed during site grading, there will be less invasive species colonization *if the packing density for the site is high.* There will also be less dead underbrush to enhance fire hazard, and less need for chemical herbicides to control the build-up. The downside is that the intact shortgrass prairie community will be removed, and reestablishment at the termination of the project is a long difficult process. Some exotic plant species also emit allelopathic toxins that prevent the regeneration of native plants even well after the exotic species are removed. *One important goal of the regulations should be to preserve the viability of the soils to assure that the original ecosystem can be reestablished at the project’s termination.*

![Solar panels with grass underneath](image)

A promising trend not mentioned by Mr. Coffey is **agrivoltaics,** in which the panels are mounted on much higher standards, permitting the growing of crops underneath. These can include grass for grazing, some grain crops, and even irrigated produce farming. The panels provide partial shading (which can be very positive for managing excessive heat), soil moisture...
retention, and hail protection. *The planning commission should encourage and incentivize agrivoltaics as a new shared land use that greatly enhances the productivity of this land.*

### III. CSU’s Colorado Natural Heritage Program (CNHP) Lands with Conservation Values

CNHP inventories regions of Colorado that host areas of significant biodiversity, and incidences of threatened and endangered plants and plant communities. Inventoried areas are mapped and recommended as “conservation areas”. *Pueblo County hosts five potential conservation areas, with high to outstanding biodiversity significance,* encompassing approximately 1/3 of the land area of the county. The most significant of these areas is in the northwest corner of the county, in the general proximity of Black Hills’ site for the new Renewable Advantage solar farm. *The CNHP data and proposed protection strategies should be considered as a criterion for 1041 permit applications.*

### IV. Modifications to adapt to Pueblo County conditions

There are several important modifications to the current revised proposed text amendment that have been raised by other reviewers that I want to highlight for your consideration.

a. **Differences between medium and large scale installations:** As SIEA and others have pointed out, the rules for medium scale installations (typically community solar gardens up to 2 MW) must be different than the current draft regulations meant to apply to both medium and large scale. Medium scale installations connect to the distribution system, not the transmission system. Their proximity to transmission lines is not relevant, and the separation requirements between solar installations, as well as setbacks, should be less than for large scale. Screening requirements may be more appropriate for medium-scale than large-scale facilities.

b. **Proximity to transmission lines:** As Xcel has pointed out, this is not the right metric if the purpose is to minimize the addition of new transmission corridors across the county, because a solar farm can’t just connect to a transmission line at any point. Perhaps new installations should be incentivized to locate near existing substations or other facilities that permit them to connect to existing transmission. *The utilities should consult with you on the final form of this requirement.*

c. **Screening:** As Xcel and others have pointed out, the currently proposed requirements for vegetative screening, berming, and fencing would be financially prohibitive for large scale facilities if applied as a blanket regulation. Screening can be handled as part of a special use permit application and site plan, based on the specifics of surrounding land ownership, viewshed protection issues, and existing development.

Thanks for your consideration of these recommendations. I look forward to the adoption and implementation of Pueblo County’s solar siting regulations, and I appreciate the opportunity to be involved.

Sincerely,

David Cockrell, Ph.D., A.I.C.P.
Analysis of Pueblo County Proposed Solar Ordinance

Percent of Pueblo County Available for Solar Development With Proposed Ordinance: ~12%
Date: September 21st, 2021

Description of GIS Analysis:
- A-1 and P-1 zones only
- Within 1 mile of existing transmission lines
- Greater than 1 mile from city limits
- Greater than 1 mile from existing or permitted solar facility
- Outside of regulatory floodplains
- Outside of land ownership off limits to solar development (conservation easements, national forest, state parks, etc.)
Hi Carmen:

Please see below comments we received. Hope these are helpful.

The Pueblo County Solar Regs are very flexible and favorable for PuebloPlex. Only have the following suggestions to make the regulations stronger:

- Consider defining “medium-scale” and “utility-scale” solar facilities as a measure of energy output, e.g. ≥1 MW or 2 MW for utility-scale projects
- Consider requiring glint/glare study and electromagnetic impact assessment for siting solar projects within specified proximity to the Pueblo Memorial Airport and its airport radars

Christopher J. Bolt
Director of Operations

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Chris, 
Do you have any comments or concerns?

Thanks,

Carmen Howard

Carmen Howard, Director
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Notice: All information, including emails, submitted to Pueblo County Department of Planning and Development is considered public record and is therefore available for public review.
Colorado Natural Heritage Program Potential Conservation Areas

Biodiversity Significance Rank
- B1: Outstanding Biodiversity Significance
- B2: Very High Biodiversity Significance
- B3: High Biodiversity Significance
- B4: Moderate Biodiversity Significance
- B5: General Biodiversity Interest

Elevation
- High
- Low

Version Date: November 27, 2019