

MBCA

morongo basin conservation association

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MBCA is a 501 (c)3 non-profit, community based, all volunteer organization

California Energy Commission
715 P Street
Sacramento, California 95814

Subject: Docket Unit, MS-4
Docket No. 24-OPT-03

Email: docket@energy.ca.gov

As requested, this letter explains the importance of the individual Pdfs I submitted to CEC staff during the Soda Mountain Solar Project public meeting on February 5, 2026. The Pdfs speak to

- dust generation in the Mojave Desert when soils are disturbed during the construction, operation, and following shutdown of utility solar projects;
- the ability of the desert to sequester carbon underground for millennia when left undisturbed.

I felt an obligation to provide this science based information because I live directly downwind 7.5 miles from the original solar project constructed outside the town of Joshua Tree in 2014. My property is surrounded by intact desert and until the solar project construction my air was clean no matter the wind. Then one day with a strong wind coming from the west a cloud of dust enveloped my house and closed me in until the cloud passed. Such dust clouds continue to this day. Because of the changing climate our communities were originally excited by local solar development until we learned the perils to air quality (PM10 and PM2.5), our health, and the desert environment when the intact desert is destroyed. Below are photos showing what we have experienced and what you can expect will cloud the I-15 and surrounding desert and mountains when the wind blows should Soda Mountain Solar be constructed.



Figure 1: Dust rising off the 150-acre Cascade Solar in Joshua Tree on 03/28/2016. The facility went on line 04/2014. Photo courtesy of Tom O'Keye.



Figure 2: Dust rising off Cascade Solar 01/2025. Photo courtesy of Laraine Turk.

For an introduction to the interconnection between carbon sequestration and dust generation in the desert read

(1) *The Desert Under Our Feet* by Robin Kobaly published in the March 2019 Desert Report, and the (2) *Science Brief: Climate Mitigation in California: The importance of conserving carbon in deserts* by Defenders of Wildlife.

(3) The *AB 1757 Desert Sector Letter* is a brief introduction to the report *Nature Based Solutions: Desert Sector*. This report was later upgraded to richly referenced chapters in

(4) *The California Desert's Role in 30X30: Carbon Sequestration and Biodiversity*. Below is the Report Overview with the list of chapters.

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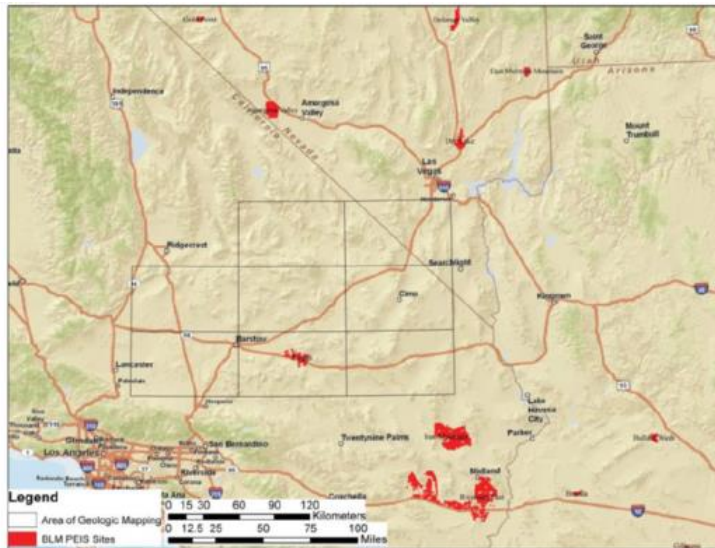
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This report was developed to support the State’s Pathway’s to 30X30 project with more accurate data for the Sparsely Vegetated Land (includes the desert) category – Chapter VIII Biodiversity in our deserts.

(5) USGS Poster (2012?) *Assessing the geology and geography of large footprint energy installations in the Mojave Desert, California and Nevada.* David R. Bedford and David M. Miller. U.S. Geological Survey.



Area of analysis in the three-state Mojave Desert region. BLM-designated PEIS sites are also shown

Figure 3: Overview Map from the poster showing the area analyzed which includes Soda Mountain Solar on the I-15 east of Barstow.

From the Abstract: “About 48% of the entire area is less than 5% slope, and 8.3% is less than 1% slope, the favored slope category. For this lowest-slope category, deposits underlying about 98% of the area are either mixed eolian-alluvial origin or are fine-grained alluvial deposits, and thus susceptible to eolian dust and sand transport, especially after disturbance. In addition, in this low-slope category, 89% of the area is susceptible to flooding, based on the age and geomorphology of alluvial deposits.” (emphasis added)

(6) USGS *Soil Surface Susceptibility to Wind Erosion.* Jayne Belnap, Sue Phillips, David M. Miller etc. This study analyzes the Threshold Friction Velocity (TFV), the wind speed at which particles move and the amount of soil blown off the soil surface at high spring wind speed. The Mojave National Preserve was selected to physically assess the vulnerability to wind erosion including the soil surface characteristics and climate and the percent time per month that a TFV is exceeded.

The town of Baker and the Soda Mountain Solar Project are within the boundary of the area analyzed.

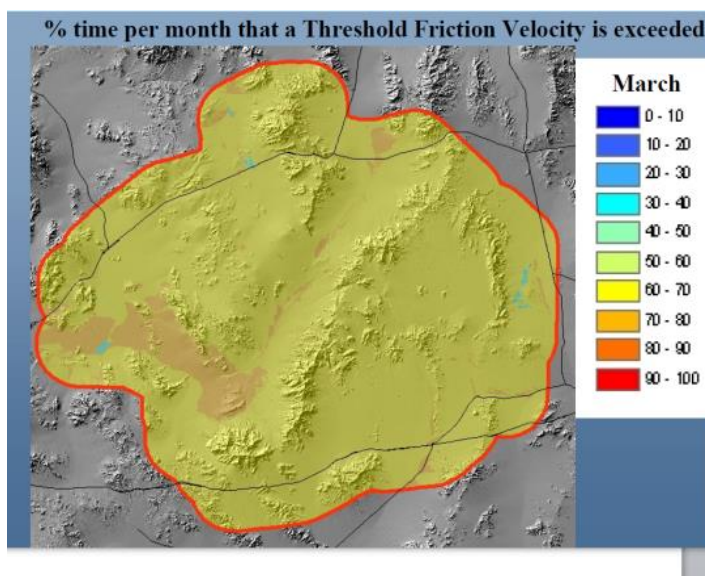


Figure 4: Soil Surface Susceptibility to Wind Erosion showing the percent time per month that a TFV is exceeded in the Mojave National Preserve. From March through October the TFV can exceed more than 60% of the time. (emphasis added)

(7) *Vulnerability of desert biological crusts to wind erosion: the influences of crust development, soil texture, and disturbances.* Jayne Belnap and Dale A. Gillette. *Journal of Arid environments* (1998) **39**: 133-142 Article No. ac980388. This article was not in the original Pdfs provided but is important to completely understand wind erosion in the desert.

From the Abstract: “Biological soil crusts, consisting of cyanobacteria, green algae, lichens, and mosses, are important in stabilizing soils in semi-arid and arid lands. Integrity of these crusts is compromised by compressed disturbance such as foot, vehicle, or livestock traffic. Using a portable wind tunnel, we found threshold friction velocities (TFVs) of undisturbed crusts well above wind forces experienced at these sites; consequently, these soils are not vulnerable to wind erosion. However, recently disturbed soils or soils with less well-developed crusts frequently experience wind speeds that exceed the stability thresholds of the crusts.” (emphasis added)

(8) *Sand Transport Paths in the Mojave Desert, Southwestern United States.* James B. Zimelman, Steven H. Williams, and Vatche P. Tchakerian, *Desert Aeolian Processes* Edited by Vatche P. Tchakerian. Published in 1995 by Chapman & Hall. London.

Remote sensing and field evidence are used to describe sand deposits found in associated pathways of emplacement in the eastern Mojave Desert.

Figure 1. (b) Simplified sketch map of the area shown in Figure 1a. Selected plays (gridded pattern, names in parentheses), mountains (names listed at appropriate location), and rivers (arrows show direction of flow) are labeled for reference. Sand deposits are shown in dotted patterns; the open pattern represents active (relatively unvegetated) dunes (KD = Kelso Dunes, CD = Cadiz Dunes, AD = Algodones Dunes) and the dense pattern represents inactive (stabilized by vegetation) deposits. Note that foreshortening due to the oblique viewing geometry causes horizontal scale variations across the area.

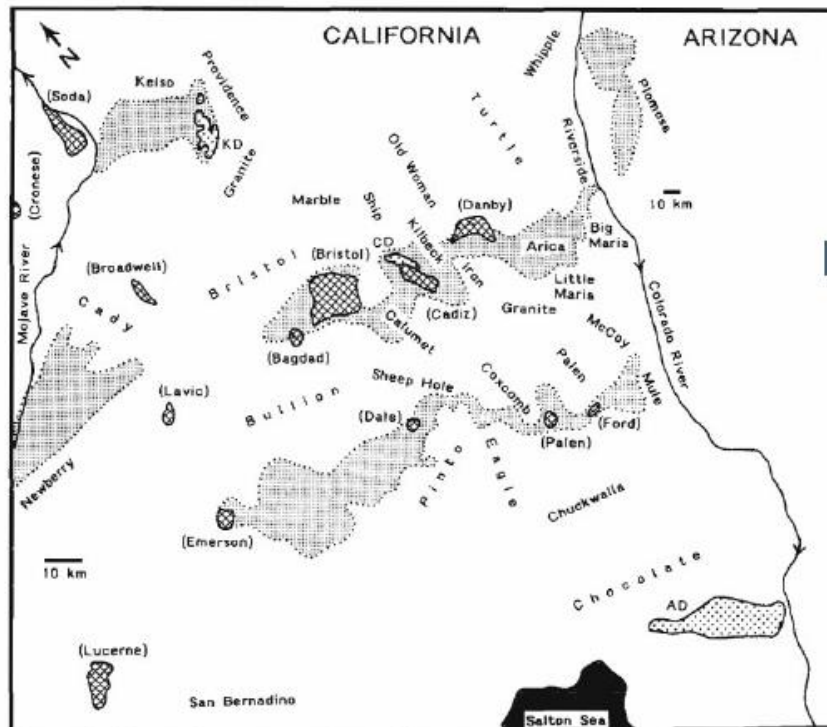


Figure 5: Sketch map of the analyzed Sand Transport Paths. Note locations along the Mojave River.



Figure 6:
Screen shot of
Daggett Solar in
Newberry Springs
12/21/2021.
Courtesy of
Ted Stimpfel.

Figure 6 shows what happens when development occurs in the sand transport path. The picture, taken December 21, 2021, shows dust blowing over the “protective” fence surrounding Daggett Solar Power Project in Daggett-Newberry Springs, in the Mojave River Valley.

These materials should be incorporated into the library of reports and scientific papers used by the CEC staff for analysis of utility solar power projects in the desert. As noted in the *California Desert’s Role in 30x30*, the two key takeaway messages are that in order to maintain desert biodiversity, carbon sequestration, and air quality the following are necessary:

1. The desert’s carbon storage process differs significantly from more widely understood sectors such as forests, grasslands, chaparral, and wetlands.
2. Because of the distinct carbon storage process found in the desert ecosystem, there is one recommended strategy to maximize the desert sector’s contribution to carbon emission reduction: intact desert lands need to be left undisturbed.

The proposed Soda Mountain Solar Project does not support the goals of the 30x30. The DEIR does not accurately reflect the soil conditions or the impact of the development on dust and air quality. Further the DEIR does not recognize the important role intact desert systems play in the sequestration of carbon thus the analysis in the DEIR is not complete and must be reanalyzed.

Further, if the proposed project goes forward, it will have detrimental impacts on the state’s 30x30 goals. The purpose of AB205 surely did not include development of projects that are counter to the state’s interest. The County of San Bernardino did not approve this project for good reasons which still apply especially related to water used to manage dust. The amount of water that is estimated to be necessary to control dust is a vast underestimate of actual water use by other projects. This is predicated on the erroneous assumption that dust can be controlled using water, see figures 1, 2, and 6. This dust will also obscure visibility on Interstate 15 and pose a significant risk for drivers.

The no-action alternative is the only sustainable alternative and should be the one adopted by the CEC for the project.

Sincerely,

A handwritten signature in black ink that reads "Pat Flanagan". The signature is written in a cursive, flowing style.

Pat Flanagan,
Board member MBCA

Pdfs attached to email:

1. The Desert Under Our Feet, Robin Kobaly
2. Science Brief: Climate Mitigation in California: the Importance of conserving carbon in deserts. Defenders of Wildlife, Defenders of Wildlife
3. AB1757 Desert Sector Letter
4. The California Desert's Role in 30X30: Carbon Sequestration and Biodiversity
5. USGS Poster: Assessing the geology and geography of large footprint energy installations in the Mojave Desert, California and Nevada, David R. Bedford and David M. Miller
6. USGS Soil Surface susceptibility to Wind Erosion, Jayne Belnap, Sue Phillips, David M. Miller
7. Vulnerability of desert biological crusts to wind erosion: the influence of crust development, soil texture, and disturbances. Jayne Belnap
8. Sand Transport Paths in the Mojave Desert, Southwestern United States. James Zimbelman et.al.