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TOURISM ECONOMICS COMMISSION

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July 29, 2013

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Proposed Palen Solar Electric Generating System (09-AFC-7C)
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Re: **Docket Number 09-AFC-7C**

FILE NAME: Filed by Tourism Economics Commission

And

Morongo Basin Conservation Association

The Tourism Economics Commission together with the Morongo Basin Conservation Association, herewith submit their comments to the Preliminary Staff Assessment (PSA) by the California Energy Commission for the Proposed Palen Solar Electric Generating System Amendment (09-AFC-7C).

- a. Air Quality Greenhouse Gases: Compliance with LORS, Mitigation, and Additional Information needs to include a science based analysis of greenhouse gas emissions from construction, maintenance, transmission activities, potential decommissioning of the facility, and the diversion of traffic to other routes (including Hwy 62) due to the adverse impacts of the facility on the I-10 scenic and business transportation corridor.
- b. Biological Resources: Compliance with LORS, Mitigation, and Additional Information needs to include a science based analysis of the effects on bird life from solar flux, loss of food source, interference with predator

visual hunting practices, and mortality due to confusion of heliostats with other natural landscape features such as water.

- c. Socioeconomics: The Assessment fails to take into account the economic effects of the Palen Project, alone, or together with the other solar projects cumulatively planned along the Highway 10 corridor, on the tourism business in the desert, the many ancillary businesses which rely on tourism, the people who live in the desert, and millions of visitors to the California Desert from around the world.

Tourism Economics: Joshua Tree National Park attracts approximately 1.5 million visits each year. Income from these visitors have an economic value to the Morongo Basin communities of over \$70 million per year. Why do visitors come to the California Desert? Why do they spend money in the desert communities?

Studies at Joshua Tree National Park give us the answer. A University of Idaho study identified the ratings of the reasons why people visit Joshua Tree National Park:

Views without development	90%
Clean air	89%
Natural quiet, sounds of nature	87%
Desert plants/wildflowers	83%
Native wildlife	81%

These visitor attractions, and their associated economic values, would be seriously damaged if the scenarios of the Palen project are adopted in their present form. Incredibly, the viewshed all the way to the Providence Mountains would be adversely punished by the harsh bright light from the Palen towers being built by “BrightSource.” (see Chris Clarke, KCET Rewire April 15, 2013) This impact should be addressed in the Socioeconomic technical area of the PSA.

Scenic Highway Values: There have been recent serious discussions of creating a National Scenic Highway of the route from Joshua Tree National Park and the Mojave National Preserve, to Death Valley National Park. Such a designation is a recognition of the unspoiled beauty of the area traversed by these highways and would enhance visitor experience. The development scenarios in the PSA would destroy that experience and hurt the tourism industry.

Other Science Values: What does peer-reviewed science tell us about the risks? The Tourism Economics Commission looked to Jeff Lovich, Ph.D., Deputy Director of the Southwest Biological Science Center of the United States Geological Survey for the answer which he published with Joshua Ennen in *BioScience*, a peer-reviewed, heavily cited monthly journal in December, 2011 – ***Wildlife Conservation and Solar Energy Development in the Desert Southwest, United States.***

It is clear that DRECP (as well as the Solar PEIS) is a very risky experiment, with a low probability of success on ecological grounds.

Here is what Dr. Lovich’s had to say:

1. (pg. 982) *Paradoxically, the implementation of large-scale solar energy development as an “environmentally friendly” alternative to conventional energy*

sources may actually increase environmental degradation on a local and on a regional scale

2. (pg. 982) *...almost no information is available on the effects of solar energy development on wildlife.*
3. (pg. 983) *...tortoises are important as ecological engineers who construct burrows that provide shelter to many other animal species, which allows them to escape the temperature extremes of the desert little is known about the effects of USSEDO (utility-scale solar energy development) on the species . . .*
4. (pg. 984) **Effects due to construction and decommissioning** *The construction and decommissioning of solar energy facilities will have impacts on wildlife, including rare and endangered species, and on their habitats in the desert. These activities involve significant ground disturbance and direct (e.g. mortality) and indirect (e.g. habitat loss, degradation, modification) impacts on wildlife and their habitat. Many of the areas being considered for the development of solar energy in the Mojave and Sonoran Deserts are, at present, relatively undisturbed.*
5. (pg. 985) *. . . construction activities produce dust emissions Dust can have dramatic effects on ecological processes at all scales.* Dr. Lovich then explains these effects: alteration of fertility and water-retention capabilities of the soil, adverse influence on gas exchange, adverse influence on photosynthesis, changes in water usage of desert shrubs, root exposure and damage to leaves and stems. . . .
6. **(pg. 985)** *there is a dearth of scientific research and literature on the effects of dust suppressants on wildlife.*
7. (pg. 985) **Mortality of wildlife.** *We are not aware of any published studies documenting the direct effects of USSED on the survival of wildlife.*
8. Other effects referenced by Dr. Lovich include: Impacts of roads, off-site impacts, habitat fragmentation, noise effects, electromagnetic field generation, microclimate effects, pollutants from spills, water consumption by wet-cooled solar, increased fire risks, light pollution, etc.
9. Dr. Lovich spells out some areas needing research and further answers:
 - Before and after studies on the direct and indirect effects of USSEDO on wildlife
 - Cumulative effects of large numbers of dispersed or concentrated energy facilities
 - Effects of wildlife of different designs of facilities
 - *Detailed information on wildlife distribution and habitat requirements are crucially needed for proper site location and for the design of renewable energy developments.*
 - *Solution to mitigation difficulties such as wildlife translocation*
10. (pg 990) *Abbasi and Abbasi stated that renewable energy sources are not the panacea they are popularly perceived to be; indeed in some cases, their*

environmental effects can be as strongly negative as the impacts of conventional energy sources.

Sincerely,

Paul Smith

Paul Smith, Chair
Tourism Economics Commission

Pat Flanagan

Pat Flanagan, Board
Morongo Basin Conservation Association