

## DOCKETED

<b>Docket Number:</b>	09-AFC-07C
<b>Project Title:</b>	Palen Solar Power Project - Compliance
<b>TN #:</b>	201324
<b>Document Title:</b>	Tourism Economics Commission Comments: Draft Supplemental Environmental Impact Statement July 2013
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	Tourism Economics Commission
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	11/25/2013 10:25:31 AM
<b>Docketed Date:</b>	11/25/2013

*Comment Received From: Tourism Economics Commission*

*Submitted On: 11/25/2013*

*Docket Number: 09-AFC-07C*

**Draft Supplemental Environmental Impact Statement July 2013**

*Additional submitted attachment is included below.*

# TOURISM ECONOMICS COMMISSION

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November 14, 2013

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Re: COMMENTS  
Palen Solar Electric Generating System  
Draft Supplemental Environmental Impact Statement  
July 2013  
CACA #048810

Dear Mr. McMenimen:

These comments to the Palen Solar Electric Generating System ("PSEGS") Draft Supplemental Environmental Impact Statement are submitted by the Tourism Economics Commission. The Commission consists of 70 persons interested in the effects of alternative energy development on the tourism and related economies of the desert. They include business interests, visitors, residents, and academic professionals from UCLA, USC, UC Riverside, UC Santa Cruz, Copper Mountain College, and the University of Nevada at Las Vegas.

1. EFFECTS ON DESERT TOURISM INDUSTRY:  
Section 4.13 of the Environmental Impact Statement deals with the social and economic impacts of the PSEGS. It deals only with positive labor economic impacts and housing.

Section 4.12.2 deals with direct and indirect impacts of the PSEGS on recreational users, parks, and developed recreation sites. It limits itself to impacts from construction, operation and decommissioning activities. It does indicate that the large towers would intrude into the views of natural areas and people enjoying those natural areas. It refers to Section 4.18 for potential impacts to visual quality from scenic and recreational areas.

Section 4.18 is the important section dealing with impact on viewsheds and it is used in connection with the viewshed map at Figure 3.19-3.

It is our view that Section 4.18 and the map do not adequately describe the damaging impacts to tourism from the two tall lighted towers. This failure is detailed as follow:

First: The map does not adequately measure the visual impact of the towers. The total height of each of the two structures will be 760 feet. This only 234 feet less than the Eiffel Tower (984'), one of the most prominent towers in the world. The light effect will be visible throughout the eastern 1/2 of Joshua Tree National Park and well into the Mojave Desert north of Highway 62. Some reports are that the lights will be visible in the Providence Mts. in the Mojave National Preserve. These two towers will have a dominating visual and light effect over more than 1 million acres.

Second: The Report treats the wilderness areas of eastern Joshua Tree National Park and those which reach north from the project as little visited and therefore not seriously impacted. This is unsupported by any economic analysis or survey. We take serious issue with the statement's characterization of these portions of our desert. In July, 2013 National Geographic, the most important publication in the tourism world, rated the Mojave Desert as one of the world's 100 most beautiful places.

*"Mojave Desert . . . . Far from the madding metropolitan crowds of Las Vegas and Los Angeles that surround it, the Mojave desert offers the balm of silence and solitude. Canyons, giant mesas, mountains, towering dunes, and vast, dust-dry plains make up one of North America's most elemental landscapes. It is a world little touched by humans, save for the odd crumbling mine or homestead, but one which nature adorns with the beauty of the Joshua tree and spring's brief-lived wildflowers."*

Third: Visitation to Joshua Tree National Park is now in excess of 1.4 visitors per year. These visitors rate unobstructed viewsheds as the single most important quality of their visit.

## 2. DESIGN UNKNOWNNS FOR THIS PROJECT

### **THE MISTAKES**

The planners of this project made the following mistakes:

1. Failing to follow the recommendations of the EPA for the placement of alternative energy on degraded lands, rooftops, parking lots, and other places where there is no threat to desert ecosystems or the economy.
2. Failing to look at the deserts of the Southwest as intact ecosystems. USGS scientists Jeffrey Lovich and Joshua Ennen can find no peer-reviewed science which supports these government and corporate plans.

3. Failing to complete a thorough economic study of the effects of the Palen Project on businesses, non-governmental organizations, our national parks, local governments, and millions of desert visitors from around the world. Qualified economic surveys and studies are missing from the EIS.

### **WHAT DOES PEER-REVIEWED SCIENCE TELL US ABOUT THESE INDUSTRIAL SOLAR PLANS?**

In December, 2011, Jeff Lovich and Josh Ennen of the USGS investigated the science behind solar industrial development in an article entitled *Wildlife Conservation and Solar Energy Development in the Desert Southwest*, published in *BioScience*, a peer-reviewed, heavily cited monthly journal. Here is what they said:

1. . . . . *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. [The EIS mentions the loss of carbon sequestration from the loss of plant life. It fails to deal with carbon sequestration loss from large scale and permanent soil disturbance. Another example of missing science.]*
2. . . . . *almost no information is available on the effects of [industrial] solar energy development on wildlife.*
3. . . . . *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 USSED [utility-scale solar energy development] on the species.[The recent Ivanpah solar utility experiment suggests that the adverse affects are more serious than predicted.]*
4. *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. *... construction activities produce dust emissions .... Dust can have dramatic effects on ecological processes at all scales.* The authors then explain 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. . . . *there is a dearth of scientific research and literature on the effects of dust suppressants on wildlife. [The EIS fails to deal with this risk.]*
7. *We are not aware of any published studies documenting the direct effects of USSED [Utility Scale Solar Energy Development] on the survival of wildlife.*

8. Other poorly studied effects referenced by Drs. Lovich and Ennen 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 power plants, increased fire risks, light pollution, etc.

From a biological and geological standpoint, an industrial alternative energy development like this Palen project is a grand experiment.

## **WHAT DOES THE EPA RECOMMEND?**

The EPA assigns priority to locating industrial energy facilities on contaminated and underutilized sites, such as abandoned mines, parking lots, rooftops, and the like. These sites would then be more economically productive without sacrifice of virgin lands.

1. Contaminated Sites: The EPA estimates that nationwide there are approximately 490,000 sites and almost 15 million acres of potentially contaminated properties. These sites degrade economic growth, jobs, and the vitality of our local communities. They could be converted to productive use for alternative energy, producing income and jobs, without sacrifice of our environment.
2. Underutilized Sites: Jared Blumenthal, Regional Administrator of the EPA's Pacific Southwest Region, states: "*Opportunities to install renewable energy systems on vacant properties can be found in every community. . . . Tapping sun and wind power at brownfield sites, rooftops, parking lots, and abandoned land could provide untapped gigawatts of clean energy.*"

These common-sense solutions should be applied before ruining our desert ecosystems, tourism, and related economies, and before increasing climate change.

## **ECONOMIC ISSUES**

An economic analysis of the effects on tourism and related local businesses should first look at why tourists visit this region. A survey by the University of Idaho prioritizes why people visit Joshua Tree National Park. This is why they come:

Views without development	90%
Clean air	89%
Natural quiet/sounds of nature	87%
Desert plants/wildflowers	83%
Native wildlife	81%
Solitude	73%
Dark, stary night skies	65%
Access to historical/cultural sites	52%

This industrial solar project would destroy these visitor satisfaction goals.

Jim Andre, a highly regarded scientist and director of the University of California's Granite Mountains Desert Research Center, tells us: "*This area is treasured by scientists throughout the world for its unparalleled pristine quality among deserts, one of the last functional ecosystems left on planet earth.*" And wildlife biologist Laura Cunningham says, "*This site is rich in life and needs to be preserved, not industrialized. Tourists understand these values and do not want to be surrounded and obstructed by huge wind farms with flashing red lights, 450+ ft towers and solar arrays.*"

So, how about 760 ft towers and massive arrays of mirrors?

The economic benefit of tourism to Joshua Tree National Park amounts to over \$64 million each year and 700+ jobs. Other studies indicate an annual economic benefit, from tourism and other uses, of over \$1.4 billion for the Mojave Desert as a whole. The possible negative impacts of the Palen solar developments on these economies deserve to be studied and not ignored.

### **BIRD KILLS**

It is now becoming clear that these types of solar facilities will kill large numbers of birds. The Migratory Bird Treaty prohibits this sort of killing, particularly in this important flyway. It is the duty of the BLM to assure compliance with the Treaty. This is a duty which the BLM cannot legally ignore.

### **OUR RECOMMENDATION**

We recommend that the BLM adopt a no-action alternative. If that is not politically acceptable, then we recommend that the BLM reconsider a photovoltaic alternative, and explore ways to minimize the bird kill in compliance with the Migratory Bird Treaty.

Sincerely,

*Paul Smith*

Paul Smith, Chair  
Tourism Economics Commission