

Subcommittee on Oversight and Investigations

Louie Gohmert, Chairman

Hearing Memorandum

July 11, 2016

To: All Natural Resources Committee Members

From: Majority Committee Staff
Subcommittee on Oversight and Investigations – x5-7107

Hearing: Oversight hearing titled “*The Status of Ivanpah and other Federal Loan-Guaranteed Solar Energy Projects on Bureau of Land Management Lands*”

The Subcommittee on Oversight and Investigations will hold a hearing on “*The Status of Ivanpah and other Federal Loan-Guaranteed Solar Energy Projects on Bureau of Land Management Lands*” on **Thursday, July 14, 2016, at 10:00 a.m. in 1334 Longworth House Office Building**. The oversight hearing will provide an opportunity to discuss the performance of the Obama Administration’s significant taxpayer investments in solar energy projects on public lands managed by BLM.

Policy Overview

- During the Obama Administration, taxpayers have subsidized tens of billions of dollars in renewable energy projects, including risky utility scale solar projects on federal land. These projects cover vast tracts of land, and have demonstrably impacted protected species.
- One such project, Ivanpah Solar Electric Generating System, constructed off the I-15 at the California and Nevada state line, covers nearly 3,500 acres¹ and “impairs the scenic vista” from the Mojave National Preserve.² The underperforming plant³ was made possible by a **\$1.6 billion federal loan guarantee**, which subsidized Google, Brightsource and NRG, the owners of the \$2.2 billion facility.⁴
- In addition to **Ivanpah** in San Bernardino, California, several other projects have received federal loan guarantees, including: **Genesis Solar Energy Project** (1,950 acres) in Riverside, California, **Crescent Dunes Solar Project** (1,600 acres) in Nye County,

¹ [Ivanpah Solar Electric Generating System](#), National Renewable Energy Laboratory, U.S. Dept. of Energy. Status Date: November 20, 2014.

² [Executive Summary: Solar Energy, National Parks, and Landscape Protection in the Desert Southwest](#), National Parks Conservation Association, Center for Park Research, pg. 5.

³ See, Kennedy Maize, [Has Ivanpah Slammed the Door on Concentrated Solar?](#), POWER, November, 14, 2016. Accessed on July 8, 2016.

⁴ *Ibid.*

Nevada, and **Desert Sunlight Solar Farm** (4,165 acres), in Riverside, California, occupy 11,187 acres of federal land.⁵ This has occurred at a time when Secretary of Interior Sally Jewell has decried development of Western land.⁶

- Complicating the placement of these economically non-viable projects is the history of under-bonding renewable energy projects by the BLM.⁷ If these projects go the way of Solyndra, American taxpayers could lose billions in loan guarantees and still be left to clean up the mess.
- Despite laws protecting migratory birds, federally funded solar facilities have singed to death birds with what have been described as 1,000 degree Fahrenheit “death rays.”⁸

Witnesses Invited

Mr. David Kreutzer, Ph.D.

Senior Research Fellow, Energy Economics and Climate Change
Center for Data Analysis
The Heritage Foundation
Washington, D.C.

Mr. Mike Nedd

Assistant Director
Energy Minerals, & Realty Management
Bureau of Land Management
Washington, D.C.

Mr. Daniel Simmons

Vice President for Policy
Institute for Energy Research
Washington, D.C.

Mr. Gregory Wetstone

President and Chief Executive Officer
American Council on Renewable Energy
Washington, D.C.

⁵ [Renewable Energy Projects Approved Since the Beginning of Calendar Year 2009](#). Bureau of Land Management, U.S. Dept. of the Interior. 2009.

⁶ See, Matthew Daly, [Jewell: 'Major course correction' needed on conservation](#), ASSOCIATED PRESS, April 19, 2016. Accessed on July 8, 2016.

⁷ [BLM Has Limited Assurance That Wind and Solar Projects Are Adequately Bonded](#) (GAO-15-520). Government Accountability Office. June 5, 2015.

⁸ See, Danielle Wiener-Bronner, [The World's Largest Solar Energy Plant Is Also a Massive Death Ray for Birds](#), THE WIRE, February 19, 2016. Accessed on July 8, 2016.

**Although a witness representing the U.S. Department of Energy was invited, the Department declined*

**Although a witness representing the U.S. Fish and Wildlife Service was invited, the Agency declined*

Background

Federally Backed Solar Facilities on BLM Land

Ivanpah Solar Electric Generating System

Ivanpah Solar Electric Generating System began operating in 2014. It is a concentrating solar power (CSP) project consisting of 346,000 mirrors within a total of three separate units that are taller than the Statue of Liberty. Ivanpah 1 has a total capacity of 126 MW, and Ivanpah 2 and 3 are both 133 MW each.⁹ The electricity is created by focusing sunlight onto three centralized collectors which then heat water, generate steam, and spin turbines.

This project, owned by Google, NRG Energy, and Brightsource Energy, occupies 3,472 acres in San Bernardino, California and was constructed at a cost of \$2.2 billion. Of that, \$2.2 billion, **\$1.6 billion** was financed by a Department of Energy Section 1705 “stimulus” loan. On top of that, Ivanpah was gifted a **\$535 million** “1603” Treasury grant to help pay back the loan.¹⁰ Despite its corporate backers, and billions in funding provided by the federal government, Ivanpah has been unable to meet its contractual agreements to supply electricity to consumers in California. In March of this year, the facility was granted an extension, with financial penalty, to provide extra time to meet its obligations.¹¹

While the technology may already be irrelevant,¹² Ivanpah could still be financially viable due to the 20 year, fixed price power purchase agreements with utilities that are obligated to meet renewable standards. However, if the terms of the contract are not met and market relevant prices are renegotiated, the viability of the plant is in doubt. Fortunately for Google, NRG Energy, and Brightsource Energy, it is the American taxpayers that have borne the majority of the cost for this facility, and the corporate loss would be negligible.

⁹ [Ivanpah Solar Electric Generating System](#), National Renewable Energy Laboratory, U.S. Dept. of Energy. Status Date: November 20, 2014.

¹⁰ [Section 1603 - Payments for Specified Renewable Energy Property in Lieu of Tax Credits Awardees as of May 1, 2016](#), U.S. Department of the Treasury. Accessed on July 11, 2016.

¹¹ See, David Danelski, [SOLAR POWER: PUC gives Ivanpah plant operators more time to increase output](#), THE PRESS INSTITUTE, March 17, 2016. Accessed on July 8, 2016.

¹² See, Rob Wile, [California's Record-Breaking New Solar Plant Is Already Irrelevant](#), BUSINESS INSIDER, February 18, 2014. Accessed on July 8, 2016.

Ivanpah also has the unique ability to kill hundreds of birds in midflight. Known as “streamers,” it is believed that the birds are drawn to the installation—either mistaking the bright light for water, or pursuing the insects that are drawn to the light. The birds are then incinerated in the air by **1,000 degree Fahrenheit rays** from the collection towers. This includes many species covered by the Migratory Bird Treaty Act.¹³ Various animal habitats also were disturbed during construction of the project, including that of the desert tortoise.¹⁴

Genesis Solar Energy Project

The Genesis Solar Energy Project in Riverside, California is situated on 1,950 acres of federal land and began operating in 2013. The solar power plant consists of two independent 125 MW net (140 MW gross) sections that use solar trough technology.

The Genesis project was funded by an **\$852 million** DOE loan guarantee and **\$327 million** 1603 Treasury grant. Thousands of Native American artifacts were uncovered during construction of the facility, two-thirds of which were from 125 acres that tribes want to preserve. Developers at NextEra Energy would not accommodate the tribes’ wishes to leave the area undisturbed because it would jeopardize the use of the enormous federal loan guarantee.¹⁵

Crescent Dunes Solar Project

Crescent Dunes Solar Project occupies 1,600 acres of federal land in Nye County, Nevada and was designed to produce power 24 hours a day – a novelty compared to many other solar projects that can only produce power during daylight hours. Focused sunlight from 17,000 mirrors is directed to a tower where molten salt is heated and stored, with the ability to generate electricity after the sun sets. Developed by SolarReserve LLC, the project was funded with a **\$737 million** DOE loan guarantee and has a 25 year power purchase agreement with Nevada Power Company for 13.5 cents per kilowatt hour—or **more than twice the cost of natural gas-generated power, and nearly seven times the cost of hydropower.**¹⁶

Desert Sunlight Solar Farm

Desert Sunlight Solar Farm in Riverside County, California occupies 4,165 acres of BLM land and was constructed with a **\$1.5 billion** federal loan guarantee and **\$360 million** in Treasury

¹³ The Migratory Bird Treaty Act, 16 U.S.C. § 703-712 (1918).

¹⁴ See, Peter Laufer, [The Tortoise is Collateral Damage in the Mojave Desert](#), HIGH COUNTRY NEWS, March, 19, 2014.

¹⁵ See, David Danelski, [SACRIFICED FOR SOLAR: Sacred tribal area destroyed for efficiency's sake](#), THE PRESS ENTERPRISE, April 19, 2016. Accessed on July 8, 2016.

¹⁶ See, [Examining the Department of Energy's Loan Portfolio: Hearing Before the Committee on Science, Space and Technology's Subcommittee on Energy and Subcommittee on Oversight](#), United States House of Representatives, 114th Cong., 2016. Testimony of Nick Loris, Herbert and Joyce Morgan Fellow, Heritage Foundation. See also, [Hydropower is Affordable](#), National Hydropower Association. Accessed on July 11, 2016.

stimulus grants.¹⁷ Located two miles from Joshua Tree National Park, environmentalists have noted the potential of the solar farm to interfere with wildlife migration routes, and the impairment of the view from the park that “is likely to upset visitors.”¹⁸ Desert Sunlight has the capacity to produce 550 MW using photovoltaic technology spread out over a six square mile area.

When Isn't Green, Green?

The Ivanpah Solar Facility is thought to be powered by the abundant and free sunlight shining down in the California Desert. However, the plant consumes vast quantities of natural gas to preheat water and maintain necessary temperatures when clouds appear or the sun inevitably sets. Under California law, alternate energy plants may not use more than 5% nonrenewable fuel for generation. If such a plant consumes more than 5% nonrenewable fuel for generation, the plant no longer qualifies towards renewable goals and has little to no value to utilities already paying inflated rates.

Although Ivanpah **appears to burn more than 5% nonrenewable fuel** – meaning it should not be counted toward renewable goals – the plant found a loophole that exempts the natural gas burned overnight from being counted against the limit.¹⁹ State officials are tracking emissions from the plant because it exceeded state limits for emissions, and it was required to participate in the cap-to-trade program. However, the plant was able to avoid falling into that category by acquiring other green “offsets.”²⁰

Extra Green (\$) to Live Green

While the concept of electricity generated from the limitless (except for nighttime and clouds) availability of solar rays is promising and compelling in certain parts of the country, solar technologies are still developing and taxpayers are bearing the brunt of the upfront costs. Solar power, like wind, is an intermittent source that must rely on other forms of energy in times when the sun does not shine to ensure reliability of the electricity it produces. Moreover, the relatively small amount of power generated compared to established methods, and the cost of construction, requires a higher cost per kilowatt hour for solar power to be financially sustainable.

Due to the growth of renewable mandates, utilities are required to buy this “clean” energy and have relatively few opportunities to purchase it, and the higher cost of clean energy is

¹⁷ *Ibid.*

¹⁸ [Executive Summary: Solar Energy, National Parks, and Landscape Protection in the Desert Southwest](#), National Parks Conservation Association, Center for Park Research, pg. 5.

¹⁹ See, David Danelski, [It's not easy being green: Ivanpah solar plant near Nevada burns a lot of natural gas, making it a greenhouse gas emitter under state law](#), THE ORANGE COUNTY REGISTER, October 21, 2016. Accessed on July 8, 2016.

²⁰ See, David Danelski, [SOLAR POWER: Ivanpah plant faced emissions deadline](#), THE PRESS ENTERPRISE, November 4, 2015. Accessed on July 8, 2016.

shouldered by the consumer. Ivanpah, for example, is thought to be viable to investors because of the power purchase agreements with Southern California Edison and Pacific Gas & Electric. Although the exact rate is shrouded in mystery by confidentiality agreements, some prices have been calculated by reviewing information available in filings with other agencies. Ivanpah collects between \$0.12 and \$0.25 per kilowatt-hour, significantly more than new solar plants at \$0.05 per kilowatt-hour and reliable 24/7 fossil fuel options.²¹

If Ivanpah fails to meet its contractual agreements, it may be forced to shut down as utilities will have little incentive to continue overcharging customers in order to meet their renewable energy requirements and prop up the feel good proposition – which arguably should not be counted toward renewable goals.²²

Impacts on Wildlife

Another concern with solar plants is their impact on wildlife, and in particular, birds. Between October 2014 and August 2015, Ivanpah burnt **1,305 birds** to death with its concentrated heat rays. Over 800 of those birds were covered under the Migratory Bird Treaty Act. The Committee has not been able to identify instances in which the Department of the Interior has pursued enforcement actions against the operators of solar facility. In an extreme example of the double standards from which these facilities benefit, it must be noted that violations of the Act on the part of private citizens carry a maximum penalty of six months in prison and a \$15,000 fine for each dead bird.

Construction of the facilities also destroyed habitat of an unknown number of desert-dwelling creatures, including desert tortoises.²³

²¹ See, Cassandra Sweet, [High-Tech Solar Projects Fail to Deliver: \\$2.2 billion California project generates 40% of expected electricity](#), THE WALL STREET JOURNAL, June 12, 2015. Accessed on July 8, 2016.

²² See, Cassandra Sweet, [Ivanpah Solar Plant May Be Forced to Shut Down: Federally backed project asks California regulators for more time to sort out its problems](#), THE WALL STREET JOURNAL, March 16, 2016. Accessed on July 8, 2016.

²³ See, Julie Cart, [Saving Desert Tortoises is a Costly Hurdle for Solar Projects](#), THE LOS ANGELES TIMES, March 4, 2012.