Questions and Answers Related to the Settlement Agreement Between the Center for Biological Diversity and BrightSource Energy, Inc. Regarding the Ivanpah Solar Electric Generating System Project in the Mojave Desert

Background

In October 2010 the Center for Biological Diversity and BrightSource Energy, Inc. signed a settlement agreement in which the Center agreed that it would not pursue legal challenges against BrightSource's proposed Ivanpah Solar Electric Generating System in exchange for BrightSource committing to take additional actions to mitigate for the impacts of the project on the desert tortoise, a threatened species found on the project site. The Center had participated in both the state and federal approval processes for the proposed project and opposed approvals for the project based primarily on its impacts to high-quality desert tortoise habitat. Since the settlement, BrightSource has begun construction of the project, lawsuits by others have been filed against the project, and many issues related to the project, including the number of tortoises affected as well as the settlement agreement itself, have received substantial media attention. This fact sheet addresses the most frequently asked questions regarding the project, its impacts on the desert tortoise, and why the Center entered into the settlement agreement.

What is the Ivanpah Solar Electric Generating System?

The Ivanpah Solar Electric Generating System is a 370-megawatt solar thermal renewable energy project currently under construction in Ivanpah Valley in the California desert in eastern San Bernardino County. This solar thermal power plant is a power tower design that consists of three units, each of which includes an array of mirrors focusing the sun's energy on a central tower in which water is heated to produce steam to run a turbine to generate electricity. The project is located just north of Interstate 15 near the California/Nevada state line. When completed, the project will occupy approximately 3,500 acres of public land currently managed by the federal Bureau of Land Management, an agency within the Department of the Interior. The Ivanpah project was the first of several utility-scale solar projects to break ground in California over the past year.

What are the environmental impacts of the Ivanpah project?

The primary environmental impact of the Ivanpah project is the loss of about 3,500 acres of native desert scrubland under the footprint of the project. While the project site is traversed by powerlines, and is near an interstate highway, a golf course and the casinos of Primm, Nev., the land itself was relatively intact, with a resident population of desert tortoise (which has been protected under the Endangered Species Act since 1990) and various rare native plants. However, the project site is not located within the tortoise's 6.4 million acres of designated critical habitat. Under the terms of the project's federal and state approvals, desert tortoise found on site will be captured and relocated to nearby habitat outside of the project footprint. While most adult tortoises on the site will likely be found and relocated prior to ground disturbance, most eggs and smaller tortoises on site are unlikely to be found prior to construction and will therefore perish. Additionally, some of the tortoises that are found and relocated are unlikely to survive.

What does the settlement require BrightSource to do?

Under the terms of the agreement, BrightSource will arrange for the acquisition and/or enhancement of thousands of acres of desert tortoise habitat. The specific lands identified for

acquisition and/or enhancement will be made public when agreements are completed with the willing sellers. These acquisitions are above and beyond the measures that were required by state and federal agencies when the Ivanpah project was approved. In other words, without the settlement, significant conservation measures benefiting thousands of acres of desert tortoise critical habitat would not otherwise occur. No money, land or other benefits will go to the Center under the settlement.

What does the settlement require the Center to do?
The only substantive requirement of the settlement on the Center is that the Center cannot bring a legal challenge to any of the state or federal approvals associated with the Ivanpah project. The Center is not required to advocate for, or otherwise support, the project. The Center is not prohibited from criticizing the Ivanpah project or any other project proposed by BrightSource or other solar companies. The Center receives no money as a result of the settlement.

Why did the Center sign the agreement?
In short, the Center believed that ultimately we could gain more protections for the tortoise through a settlement with BrightSource than we would likely achieve by filing a lawsuit against the project. The Center has been involved in protecting the desert tortoise and its habitat for two decades. We have commented on, or otherwise engaged in, trying to stop or alter more than 100 projects or plans affecting the species. Over that time the Center has filed more than a dozen lawsuits to protect the tortoise. Most of these lawsuits we have won, but some were lost and a handful have settled. Just because a given project has negative impacts on an endangered species does not mean that we can necessarily win a lawsuit to stop it, because being environmentally harmful does not necessarily equate to being unlawful. Any time the Center considers suing over a project, we balance how bad the impacts of the project are with the likelihood of winning a lawsuit against it. Additionally, while a successful lawsuit can sometimes slow or stop a project, very rarely does a lawsuit by itself result in permanent protection of an area. Often a win simply requires an agency to revisit its analysis of the impacts of the project, with the project proceeding after the new analysis is complete. In this context, since the Center considered the odds of a lawsuit permanently stopping the Ivanpah project to be low, we concluded that we could achieve more conservation benefit for the tortoise through a settlement with BrightSource than we would likely achieve if we filed suit over the project. It was a difficult decision to make, but we still believe it was the right decision for the Center, and the substantial additional protections the tortoise will receive under the settlement will greatly benefit the species.

Did any other groups sign a similar agreement with BrightSource?
No. While numerous other national and regional environmental groups participated in the public approval processes for the Ivanpah project, once the project was officially approved most groups ultimately chose to remain on the sidelines. The groups that decided to challenge the project have to date been unable to stop it, construction has been under way since October 2010, and much of the ground disturbance and consequent harm to the tortoise has already occurred.

Why is the agreement confidential?
The core of the agreement is a commitment by BrightSource to acquire certain properties for the protection of the desert tortoise. Because complex property transactions can quickly unravel when details of targeted properties or potential prices become public, the Center and BrightSource decided that keeping the actual settlement document — which specifically names these properties — confidential until the properties are acquired was in the best interest of seeing

these acquisitions through to completion. We expect that the first of these acquisitions will be sufficiently finalized so as to be publicly announced in the coming weeks.

How many desert tortoises are on the Ivanpah project site?
The short answer is that no one knows the exact number of desert tortoises that occur on the Ivanpah project site (or on any other project site in the range of the species). A key point when discussing tortoise numbers is the distinction between the number *actually found* on the site during clearance surveys and the numbers *estimated* to be on the site by the wildlife agencies reviewing the project. Additionally, most estimates refer only to adult and large subadult tortoises (those over 160 mm in size), because these are ones that are most likely to be found during surveys. So while estimates that include numbers of eggs, hatchlings and juveniles are more complete than estimates that include only adult and subadult tortoises, the two types of estimates should not be directly compared. Finally, since fewer than 10 percent of tortoise hatchlings reach adulthood, with most succumbing to predators such as ravens, adult and subadult tortoises are the most important demographic for maintaining the long-term viability of a population.

When the Ivanpah project was first approved, the U.S. Fish and Wildlife Service estimated that approximately 32 adult/subadult tortoises would be found on site, but the number might be as high as 76. The agency initially said that if 38 or more tortoises were found, the environmental review of the project would need to be revisited. The Center and others told the agencies that this number was likely an underestimate, particularly since estimates for a smaller solar project nearby in Nevada were for more than 100 adult/subadult tortoises to be found on site. Once construction of the Ivanpah project began it quickly became clear that more than 38 tortoises would be found on the site. The Fish and Wildlife Service now estimates that between 51 and 141 adult/subadult tortoises occur on the site, with 84 being the most likely number. In addition to adult tortoises, the Ivanpah project site contains an unknown number of juvenile tortoises that are too small to find. The Fish and Wildlife Service, using a methodology that it believes creates an overestimate, now predicts that between 160 and 434 hatchlings and eggs and between 317 and 860 tortoises smaller than 160 mm may occur on the site, most of which would never be found. It is these estimates of eggs, hatchlings and juveniles that figure into press reports that more than 1,000 tortoises will be harmed or killed by the Ivanpah project. However, such estimates should not be confused with the estimates of adult and subadult tortoises on the site.

How do tortoise populations on the Ivanpah project site compare to other areas?
Again, when talking about and comparing tortoise numbers it is important to recognize that few areas have been comprehensively surveyed, that surveys during drought years tend to find fewer tortoises than in wet years, and that surveys of different areas often use different methodologies for making estimates, sometimes calculating only adult tortoises (tortoises larger than 180 mm), sometimes calculating adults plus subadults (tortoises more than 160 mm), and very occasionally also estimating juveniles, hatchlings and eggs.

The Ivanpah project occurs in the Northeastern Mojave Recovery Unit for the desert tortoise, one of six recovery units designated for the species. The Fish and Wildlife Service currently estimates there are more than 3.5 million acres of relatively intact tortoise habitat and more than 40,000 adult tortoises in the Northeastern Mojave Recovery Unit. Across the full range of the Mojave Desert tortoise in California, Nevada and parts of Utah and Arizona, there are likely more than 100,000 adult tortoises. There is a great deal of statistical uncertainty in these

estimates, so they should not be taken as precise numbers, but rather as reflective of the scale of the distribution of the tortoise and its habitat.

Across the range of the tortoise, densities range from zero to more than 250 adult tortoises per square mile. Given the current estimate of 84 adult and subadult tortoises on the 5.6 square mile Ivanpah project site, adult tortoise density on site likely averages fewer than 15 animals per square mile. This is above the average population density of tortoise in the Northeastern Mojave Recovery Unit but below the average density within designated critical habitat elsewhere in Ivanpah Valley.

In terms of overall impacts on the desert tortoise, the Ivanpah project is larger than many other projects, while smaller than some. In the West Mojave the tortoise is dying a death of a thousand cuts, as numerous small development projects bulldoze a few acres of tortoise habitat at a time. The Ivanpah project is larger than any these projects individually, but cumulatively such developments probably represent a greater threat to the tortoise than an individual solar project. While most small residential and commercial development projects proceed without any take authorization for tortoise, a currently proposed tortoise incidental take permit in the West Mojave would authorize the removal or death of desert tortoises across more than 60,000 acres in the region. Military activities also have a big impact on the tortoise. When the Army began expansion of its Fort Irwin training center, well over 560 adult tortoises were displaced and hundreds more will be displaced when the next stage of the expansion into the Superior Valley gets under way. Similarly, the proposed expansion of the Marine Corps base at Twentynine Palms will affect hundreds of adult tortoise if it goes through. Dozens, if not hundreds, of tortoises are also likely killed by off-road vehicles each year. In sum, while the impacts of the Ivanpah project on the desert tortoise are substantial (with an estimated 84 adult tortoises that will be translocated and 3,500 acres of habitat lost), and the tortoise would clearly have been better off if the project had been sited elsewhere, many other projects, including projects with greater impacts, have been approved and continue to be move forward with less controversy.

What is the Center's position on large-scale solar projects in the desert?
The Center position on energy, whether it be renewable or fossil fuel, is inseparable from the climate crisis. Globally, we have already overshot safe levels of carbon dioxide in the atmosphere. If we are to avoid the worst impacts of global warming, including loss of species such as the polar bear and entire ecosystems such as coral reefs, we must rapidly transition away from all forms of fossil fuels. While much better energy conservation and efficiency is of course essential, as an industrialized society it is highly likely that the United States will still consume enormous amounts of energy. Consequently, the development of renewable energy on a massive scale is a critical component of efforts to reduce greenhouse gas emissions. Rooftops are of course the first places we should look to for installing solar power, but they are not enough. California currently has a goal of generating 33 percent of its electricity from renewable sources by 2020. While this goal is ambitious, it is ultimately not sufficient, as we need to reach essentially a 100 percent renewable energy standard in the coming decades if we are to have any hope of avoiding the worst impacts of global warming.

While a rapid transition to renewable energy is necessary to bring about the required emissions reductions, the Center believes that important habitats and wild areas need not be sacrificed to meet these targets. Industrial-scale renewable energy power projects must be thoughtfully planned to minimize impacts to the environment. Optimally, renewable energy projects would be

sited on previously disturbed and degraded lands and, to the extent possible, in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission. Directing industrial-scale projects to already disturbed and fragmented lands will go a long way toward blunting the negative impacts from such projects and speeding up their approval process.

How can we improve siting for renewable energy projects?
Unfortunately, we live in a society with a utility-centric model of energy production and distribution that tends to favor large-scale private projects on public lands over smaller-scale local projects. If we had a better incentive and regulatory structure, more projects would likely be proposed on disturbed or fragmented lands close to communities rather than in more remote desert locations, more houses and industrial buildings would be retrofitted with rooftop solar panels, and no new construction would be allowed that did not contain rooftop and parking lot solar or other attendant renewable power on site. So first and foremost we need to reform our utilities, our oversight agencies and our land-use approvals to facilitate distributed generation.

While there may be some public lands that are appropriate for large-scale projects, the Department of the Interior's system for approving such projects has been rather dysfunctional, leading both to delays in project approvals and to projects being sited in sensitive areas. Rather than proactively designate areas where conflicts with endangered species and other sensitive resources would be minimal, the Interior Department let a dynamic gain momentum in which solar companies (or speculators) would apply for permits to build projects on sites that had good features from an engineering standpoint (such as slope and nearby transmission) but which also had important biological resource values (such as desert tortoise). This has resulted in numerous conflicts between conservation groups and solar companies that could easily have been avoided. Accordingly, the Center has pushed Interior and other relevant agencies to undertake programmatic planning to steer projects to areas that have the fewest impacts and conflicts. To that end the Center has also worked with Interior and other stakeholders to develop criteria for siting renewable energy projects to avoid the most sensitive habitats and significant impacts.

A few of the common-sense criteria include prioritizing siting in disturbed and degraded areas, brownfields, abandoned mining sites, near existing urban centers, proximate to existing transmission lines, and near end-users. Areas to avoid include parks, wilderness, critical habitat, wetlands and riparian areas, lands donated for conservation, key movement corridors, migration corridors and linkages, proposed wilderness, proposed national monuments and areas adjacent to national parks and state parks.

Will the Center continue to work on renewable energy projects?
Yes, the Center continues to be actively engaged in local, state and federal administrative approval processes for many of the large-scale renewable projects proposed in the desert and elsewhere with the goal of improving the project siting, minimizing impacts to sensitive resources, and maximizing conservation of threatened and endangered species and their habitats. While many projects have been approved that are poorly sited and have significant impacts on species and habitats that could and should have been avoided, the Center continues to participate in these processes to press for better siting, fewer impacts to species and habitats, and additional mitigation. Although we still have a long way to go, we look forward to a day when we can affirmatively support most renewable energy projects that are proposed.