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**May 24, 2017 Lead Commissioner Workshop on Strategic Transmission Planning:
Interactive Data Platforms to Support Collaborative Planning and Advanced
Technologies**

Additional submitted attachment is included below.



June 7, 2017

Chairman Robert B. Weisenmiller,
IEPR Lead Commissioner
Commissioner Karen Douglas,
Siting Lead Commissioner
California Energy Commission
1516 Ninth St.
Sacramento, Calif. 95814

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**Re: Docket Number: 17-IEPR-13
Proceeding: May 24, 2017 Lead Commissioner Workshop on
Strategic Transmission Planning: Interactive Data Platforms to
Support Collaborative Planning and Advanced Technologies**

Dear Chairman Weisenmiller and Commissioner Douglas:

We are writing to you on behalf of the Alliance for Desert Preservation (“ADP”), which is a nonprofit mutual-benefit corporation formed to protect the environmental and economic well-being of the High Mojave Desert, and to support a sustainable future.

According to the published notice for the California Energy Commission’s (the “Commission”) May 24, 2017 workshop (the “Workshop”), its purpose was to promote the “variety of landscape-scale planning approaches” of the DRECP, RETI 2.0 and the San Joaquin Valley “best fit/least conflict” solar initiative in order to “identify suitable areas for [utility-scale] renewable energy development” and new transmission. In this letter, we will examine the fundamental (and to some extent unspoken) assumptions underlying this premise as it was discussed at the Workshop, which assumptions are as follows:

(1) Assumption No. 1 – that California's wide variety of ecosystems – in all their vastness, diversity, complexity and dynamism – can be perpetually preserved and managed, despite mounting habitat losses to utility-scale and transmission development, through a “conservation framework” stitched together from landscape-level geospatial data of the type found in the DRECP;

(2) Assumption No. 2 -- that the State should proactively identify sites for new utility-scale renewable and transmission projects at a landscape-level using geospatial data of the type used in the DRECP, and that applications for project sites blessed through that approach should be pre-approved at the local planning level, i.e., conferred with a streamlined application/approval process so that they can get built as quickly as possible;

(3) Assumption No. 3 -- that the primary tool for achieving this State's renewable energy mandates is, and will continue to be, an accelerating amount of new ground-mounted, utility-scale solar PV installations and other large-scale renewables, most of which ought to be sited in what are described as the "resource-rich" California desert and San Joaquin Valley; and

(4) Assumption No. 4 -- that, while better use can be made of existing grid assets through a variety of new and existing technologies, new transmission will be required to support all the posited new utility-scale renewable energy projects.

1. Assumption No. 1 Is Unfounded Because the DRECP Approach Is Fundamentally Flawed. Moreover, The Environmental Well-Being of This State's Vast and Diverse Ecosystems Cannot Possibly Be Maintained Using Landscape-Level Planning of the Type Employed by the DRECP.

A. The DRECP Geospatial Data Planning Approach Is Itself Flawed, and It is Not by Any Means the Product of the Best Science Available.

According to speakers at the Workshop, the geospatial datasets employed by the DRECP represent a proper foundation for a state-wide landscape-level planning process.¹ But the DRECP's entire planning approach was deeply flawed, and its conclusions were expressly skewed toward serving its stated interagency goal, which was to "streamline the process for the development of utility-scale renewable energy generation and transmission consistent with federal and state renewable energy targets and policies . . ."² The BLM LUPA – which is the Phase I Land Use Planning Amendment/FEIS for the DRECP released in September 2016 -- calls for 8,175 megawatts of new utility-scale energy projects on public lands, noting that the

¹ A representative of ADP participated in the Workshop by WebEX and by telephone, but, due to a technical glitch on the Commission's end, that representative was unable to make a public comment.

² The BLM LUPA summarily dismissed a Distributed Generation alternative outright on the ground that it "would not meet the interagency goal because it does not provide a streamlined process for development of utility-scale renewable energy . . .". By putting on self-imposed blinders, the REAT agencies created a central flaw that permeates the entire effort.

overall goal is to create 20,000 megawatts of new renewables in the DRECP Plan Area as a whole. To advance that purpose, the draft DRECP ignored or minimized data suggesting that industrializing large swaths of our deserts would irrevocably despoil them, and the BLM LUPA did the same thing as it pertains to public lands.

Scores of published comment letters and formal protests were filed by scientists, governmental agencies (including San Bernardino County (the “County”), NGOs (including ADP) and individuals with respect to the proposed BLM, which letters raised numerous concerns about the draft DRECP’s assumptions, methodology and uncertainty. (Since both RETI 2.0 and the San Joaquin Valley solar planning initiative aspire to follow the DRECP planning approach, the discussion below regarding the DRECP will be directly applicable to them as well.³)

We will below briefly summarize only three of these filed letters and protests:

1. Wildlife biologist Kristeen Penrod is universally recognized and highly respected as the foremost authority on identifying lands essential to maintaining and restoring functional species connectivity and biodiversity in the California deserts. She is the author of seven publications addressing connectivity in California’s Mojave and Sonoran desert ecoregions, in three Sierra Nevada mountain ranges and in the South Coast ecoregions. Ms. Penrod submitted a map to the DRECP depicting the “Desert Linkage Network,” upon which is overlaid the Desert Tortoise TCA Habitat Linkages (as prepared for the DRECP by the USFWS). These combined linkages reflect the interconnections between individuals of a species and among species, with a focus on how they subsist, migrate and procreate over time as part of a desert knit together by connectivity corridors as a living, breathing biome. Her report was lauded in the draft DRECP as providing “a comprehensive and detailed habitat connectivity analysis for the California deserts” (App. Q (Sections 3.4.1 and 3.4.2)).

In Ms. Penrod’s report for ADP – which embodied her comments on the draft DRECP -- she declared emphatically that “NO DFAs should be sited within the Desert Linkage Network,

³ RETI 2.0’s geospatial maps provide nothing of value in terms of environmental analysis or siting criteria. Its ten Gateway maps, which include a National Land Cover Database 2001 (“NLC”) map for the Pacific Northwest (and only a sliver of California), do not resolve sufficiently to allow correlation with specific parcels and are of marginal applicability: they depict Inyo and Los Angeles County zoning, NLC land cover/imperviousness and color-keyed polygons showing general locations of California vegetation/wildlife types. Critical issues like habitat connectivity are not at all addressed.

Making matters worse, RETI 2.0 assigned hypothetical – and extremely oversized – megawattages of new utility-scale projects to designated geographical areas – for instance, it hypothesized 5,000 MWs of new projects for what it calls the “Victorville-Barstow Transmission Focus Area” – claiming that it was justified making such inflated projections because it was doing so merely for conceptual-level, “what if” study purposes only.

desert tortoise linkages, bighorn sheep intermountain habitat and Mohave ground squirrel linkages,” and that “all these species-specific linkages and landscape linkages should automatically be included in the Reserve Design” as ACEC, NLCS lands and the like . . .”. She also noted that the DFAs proposed for the “Pinto Lucerne Valley and Eastern Slopes” subarea showed a serious disregard for well-established data and studies relating to the preferred and critical habitats and connectivity corridors for 37 Covered Species, as well as other focal species. She concluded that, based on biological habitat and connectivity issues alone, the Apple Valley, Lucerne Valley and Johnson Valley DFAs radically threaten the health and survival of many special status species.

Notwithstanding Ms. Penrod’s impeccably researched and reasoned objections, the draft DRECP and, later, the Phase 1 BLM LUPA and FEIS for the DRECP (the “BLM LUPA”), adopted DFAs that deviated markedly from the habitat linkage network as established in Ms. Penrod’s reports.⁴ Thus it cannot be said that the DRECP is based on the best available science.

2. The EPA recommended, in its February 23, 2015 letter, that the REAT agencies re-evaluate “the amount of renewable energy that may need to be produced in the Plan Area,” i.e., discard the DRECP’s single-minded focus on fostering utility-scale renewable energy projects because they are fast being rendered obsolete by technological and market developments. In that regard, the EPA stated:

“We recognize that federal and state directives compel the REAT agencies to plan for potential renewable energy development on Southern California’s desert lands; however, significant market and policy developments affecting the renewable energy industry – such as the sharp decline in the cost of rooftop solar-powered electricity and rapid deployment of energy storage – warrant a re-evaluation of the renewable energy planning effort conducted for the Plan Area by the California Energy Commission in July 2012. These developments have the potential to drastically increase the amount of distributed forms of renewable energy (including rooftop solar) produced in the state, which could reduce the need for utility-scale solar projects to be developed in the Plan Area.”

The EPA’s comment letter also stated that:

(1) “Three developments, in particular, have the potential to dramatically alter how electricity is produced, transmitted, and stored in California: the sharp decline in the cost of rooftop solar-powered electricity; the growing demand for, and deployment of, energy storage; and Governor Jerry Brown’s recent proposal to raise State’s renewable portfolio standard.”

⁴ In establishing those DFAs, the BLM also ignored a Position Paper submitted by the County in opposition to the draft DRECP, wherein the County stated that DFAs need to be removed from the communities of Newberry Springs, Stoddard Valley, Johnson Valley, Lucerne Valley and Apple Valley.

(2) The passage of A.B. 2514, which mandates 1,325 gigawatts of new energy storage by California's three large investor-owned utilities by 2020, has resulted "in contracts being secured for hundreds of megawatts of new energy storage. In addition, the 'road map' for smoothly deploying energy storage into California's grid, which was detailed in a report released in January 2015 by the California Independent System Operator, the California Energy Commission, and the California Public Utilities Commission, should make it easier to use batteries and other devices to store renewable power and release it at opportune times, thereby enabling greater amounts of energy from rooftop and other distributed solar systems to be fed into the grid."

(3) The increase in the state's renewable energy standard could lead to renewed interest in developing utility-scale projects in the Plan Area, but the tax incentives driving utility-scale "may not be available or will have been reduced during the proposed term of the DRECP (the 30% investment tax credit drops from 30% to 10% in 2017);" and

(4) "For this reason, the financial viability of future utility-scale renewable energy projects in the Plan Area is far from certain. Each of the market and policy developments detailed above – drastically reduced distributed solar costs, the rapid infusion of energy storage to the grid, and the potential passage of a bill raising California's renewable portfolio standard – could have profound implications for the DRECP planning effort and should be analyzed and discussed in the FEIS."

The DRECP did not, as requested by the EPA, reevaluate the amount of utility-scale renewable energy that would be required in the DRECP plan area, nor did the DRECP abandon its focus on utility-scale as the only tool available for meeting our State's RPS goals.

3. The Board of Supervisors for San Bernardino County submitted a February 20, 2015 comment letter on the DRECP stating that the County's priorities included confining utility-scale renewable energy to previously disturbed and contaminated locations, and excluding utility-scale renewable energy from "Apple Valley, unincorporated Apple Valley, Phelan (south of SR 18 between US 395 and the Los Angeles County line), Stoddard Valley, Helendale, Lucerne Valley, Johnson Valley, Newberry Springs and along historically sensitive sections of California Highway 66/NTH." Rather than confine utility-scale, as requested by the County, to disturbed and contaminated lands, the BLM LUPA continued to target the referenced regions with extensive DFAs (Development Focus Areas, where utility-scale projects are to be actively streamlined and incentivized) based in large part on the highly subjective – and demonstrably false -- notion that they are no longer "intact." This discredited concept, which is referenced above in Fn. 3, is discussed at some length below.

Due to a great deal of criticism from all quarters, the draft DRECP was entirely revamped to sever the private lands aspect of the draft DRECP, and to promulgate a DRECP covering

BLM lands only.⁵ In short, the geospatial data planning approach adopted by the DRECP has been called into serious question by the DRECP itself. Under those circumstances, and in view of the fundamental flaws pointed out above, the Commission should not look to the DRECP as a model for state-wide landscape-level energy planning.

B. The Creation and Interpretation of the DRECP Datasets Was the Product of a Highly Subjective, Pro-Development Process.

The DRECP in many cases incorporates subjective – and erroneous – conclusions, rather than the “best science available.” The DRECP’s “Terrestrial Intactness Map” (“TI Map”) illustrates this point quite well. Its mosaic of pixels was not the product of a detached and rigorous scientific study. Instead, each pixel reflects subjective visual impressions about the extent to which particular parcels should not be exempted from large-scale energy development, i.e., the degree to which the parcels had been previously altered by human activity. Clearly one person’s intact acreage will be another person’s degraded land. Further, the entire process was subject to a strong institutional bias, having been commissioned by a DRECP whose express mission was to usher in large amounts of utility-scale renewable energy projects, i.e., lowering the reported “intactness” of particular acreage was implicitly incentivized.

The concept of “intactness” was based on the erroneous proposition that a desert parcel should be abandoned to large-scale development simply because it has at some point been subject to human activity. We need only look to Lucerne Valley, particularly its northern reaches, for an illustration of this point. Some desert lands there are in various stages of recovery from agricultural activities undertaken quite some time ago, and they should be allowed to return to their natural state. Moreover, as is often the case in the High Desert region and in other rural areas of the State, they host well-established human communities that have successfully coexisted for generations with intact, functioning and irreplaceable natural ecosystems – both equally deserve this State’s protection against industrialization and should not by any means be regarded as being “non-intact.” In fact, any place where people live, work, play or go to school ought to be considered fully intact, and the only areas that should be labelled “non-intact” would be ones that have been *severely degraded* by human activity, such as brownfield sites, abandoned landfill sites and abandoned mine areas, provided that they are not in or near residences, rural communities, wildlife corridors and sensitive environments.

Nevertheless, portions of Lucerne Valley were accorded low intactness on the TI Map, even though they are visually quite similar to other portions that were deemed to have high

⁵ The BLM LUPA was, however, no improvement over the draft DRECP. The BLM LUPA places DFAs adjacent to desert rural populations and severs widely-acknowledged wildlife linkages in the County, including ones called for by renowned wildlife biologist Kristeen Penrod and the United States Fish & Wildlife Service.

intactness,⁶ with the result that they are opened to new utility-scale and transmission projects (each project in process would, in turn, further lower their perceived intactness, thus providing additional justification for still more large-scale development).

The “Conservation Value (1 km), DRECP” map, which is a mosaic of pixels supposedly depicting the conservation value of particular areas, is also clearly the product of subjective interpretation. This map acknowledges that it “reflects species prioritization based on the Desert Renewable Energy Conservation Plan’s guidelines” and that “appropriate use of model results is constrained to DRECP planning purposes.”

The subjectivity inherent in the DRECP process is also illustrated by the enormous differences in the sizes and locations of wildlife connectivity corridors as mapped by Kristeen Penrod, a recognized wildlife biologist, and as mapped by the DRECP.

Further examples of the bias inherent in the process could be provided, but the point is already well made, and is applicable to any other planning process that draws on or follows the DRECP approach. Clearly, the DRECP is not the product of the best science available.

C. This State’s Natural Systems Cannot Be Preserved Against Mounting Habitat Losses to Utility-Scale Renewables Merely by Stitching Together a Geospatial “Conservation Framework.”

This conclusion follows from a review of the 2016 Integrated Energy Policy Report Update (the “Update”), which, at p. 51 et seq., unflinchingly catalogs the alarming degree to which renewable energy development has degraded California lands, especially those found in the California desert. The statements made on the subject in the Update are particularly noteworthy because they come from the Commission itself and because, as reflected in the official published notice for the Workshop, the Update provided the intellectual framework for the Workshop.

The Update recites (at p. 52) that the 12,000 MW of renewable generation added since 2001 have affected “roughly 200,000 acres [which amounts to 312.5 square miles] in a variety of general and technology-specific ways, including “habitat loss, degradation and alteration” which has caused direct and indirect impacts such as: (1) loss of endangered species in a state which has “more endemic and federally protected species than any other state” due to its “wide range of climates and habitats” [the Update observes that, because “many rare or sensitive species in California have localized distributions,” there is an increased “potential to be negatively impacted by energy development [p. 51]”]; (2) disruption of critical sand transport systems in our deserts (p. 52); (3) attraction of species not otherwise found in the area or increase the

⁶ None of the former agricultural lands in Lucerne Valley are anything like the intensively-exploited agricultural lands of the San Joaquin Valley.

concentration of predatory species (p. 52); (4) bird collisions with reflective solar panels (p. 52); (5) alteration of landscapes that affect biological resources by changing drainage patterns and the flow of water to surrounding areas (p. 53); and (6) interruption of migration routes for sensitive species.

Just as significantly, the Update concluded (at p. 53, Fn. 100) that changes to the physical environment occasioned by energy development cause “successional shifts” in endemic species that can have implications for the “short- and long-term makeup of the ecosystem as a whole.” The Update goes on to state (at p. 54 - 55) that, even if site-specific mitigation can be provided by permanently preserving habitat similar to the habitat disturbed by construction – which is “becoming increasingly difficult” to do because the “amount of suitable habitat is decreasing” – “there are concerns about compounding stressors or cumulative impacts to species and ecosystems, as well as adding stress to natural systems from future climate change.”

In short, a disturbance on land comprising even one APN has a cascading multiplier effect that radiates throughout and beyond the surrounding area, permanently altering the entire ecosystem – all of which will be exacerbated by climate change. This is a remarkably prescient observation. But, in its next breath, the Update posits (at p. 55) that landscape-scale planning, like the DRECP, “*attempts to address this concern* by identifying the most appropriate areas for large-scale renewable energy development within the desert landscape by designing a conservation framework to foster and maintain species resiliency across desert ecosystems, with explicit consideration of the impacts of climate change.” (Emphasis added.) Given the Update’s acknowledgment that large-scale energy development has caused (and will continue to cause) serious environmental degradation -- and considering that the continuing viability of the State’s human and natural communities hangs in the balance -- this is a revealingly weak endorsement of the DRECP landscape-level approach, as well as a tacit acknowledgment that this approach would, at best, provide limited amelioration of resulting environmental losses, rather than provide a solution to any of the problems identified in the Update.

Mortgaging our State’s environmental future to a geospatially-spawned “conservation framework” would constitute a reckless and totally unprecedented experiment of epic proportions. Much more would be involved than just mapping out which lands should and should not be sacrificed to burgeoning energy development. One need only look to the DRECP for confirmation; it calls for the implementation of complicated plans governing the ongoing management and conservation of reserve lands in terms of habitat and species preservation,

disturbance caps, OHV use and more.⁷ The Commission would in effect be taking on the continuous management of the entire state's almost unimaginably vast, diverse and highly unique flora and fauna – indeed, the whole of the state's 104,690,000-acre collection of changing micro-environments as they are relentlessly impinged on by energy development and the effects of hosting the world's sixth largest economy – from the atmosphere all the way down to the biochemical state of soils crusts and the groundwater below. Such a task would dwarf that ostensibly taken on by the DRECP, whose eleven million acres of BLM land is mostly uninhabited and undeveloped.⁸

In short, the factual underpinnings are missing for the assumption that “species resiliency” can be maintained for the entire State using a landscape-scale planning approach akin to the DRECP. This would require a deity-level of knowledge and applied wisdom: no matter how many geospatial layers are loaded onto a collaborative central platform – no matter how many well-intentioned cooks stir the proverbial data broth – there would be no way to predict with the necessary precision the complex, cumulative and scaffolding environmental effects that would result from relegating hundreds of thousands more acres to utility-scale and related transmission development, other than to note with certainty that widespread habitat loss would be inevitable, that the desert's ability to sequester carbon would be progressively and permanently destroyed⁹ and that the collapse of eons-old ecosystems would be a grim and distinct possibility. And, even if a workable “conservation framework” were to somehow emerge, there would not be sufficient public money and manpower to sustain it as an evolving entity on an ongoing basis. In any event, the entire framework would almost certainly be upended as the State is roiled by accelerating climate change affects – and by other changes to the environment that will inevitably be wrought by a vibrant and expanding state economy -- the effects of which can now only be dimly anticipated with computer modeling.

⁷ In that regard, the BLM LUPA for the DRECP claims that it serves “two sets of overarching goals”: (1) identifying lands appropriate for utility-scale renewable energy development, while (2) “simultaneously providing for the long-term conservation and management of Special Status Species and vegetation types as well as other physical, cultural, scenic and social resources within the DRECP Plan Area . . .”. We have no confidence that the DRECP will fulfill the second enumerated goal.

⁸ Implementing a state-wide geospatial planning exercise on this scale would, of course, also require a full CEQA/NEPA review.

⁹ Destroying this valuable and irreplaceable carbon sink through industrialization would work directly against the purposes underlying this State's RPS goals and GHG-reduction objectives, and undercut the justification proffered for ramping up the development of utility-scale renewables.

Nevertheless, invited speakers at the Workshop extolled the DRECP approach because green-lighting specific areas for large-scale development would increase certainty and lower application costs for developers, i.e., serve this State's RPS goals by making it quicker and more economical to get utility-scale renewables approved and completed. But, as explained above, this would produce widespread environmental deterioration, and related losses to the State's economy, that would far outweigh any cost savings conferred on developers. And, given the immense amount of acreage that utility-scale solar and transmission consume, every effort should be made to *discourage* their proliferation, especially given that the State's RPS goals can be met by installing site-specific Distributed Generation in the built environment on rooftops and parking lots (as will be discussed below), as well as through community solar, energy efficiency and battery storage. Finally, as will be explained in the next section of this letter, making siting determinations at landscape-level would exclude from the process those local residents and governments that would be most affected by particular utility-scale projects.

Too much is at stake – the very well-being of human and natural communities throughout the State – to subject ourselves to the ill-considered experiment being proposed in the Workshop.

2. Assumption No. 2 -- That Sites for New Utility-Scale Renewable and Transmission Projects Should Be Pre-Approved at a Landscape-Level -- Is Unfounded Because This Approach Would Produce Poor Planning Decisions by Disenfranchising Local Residents and Governments That Would Be Most Affected By Particular Projects.

A common theme at the Workshop was that state-wide landscape-level site planning should be used to drive project approvals for utility-scale renewable projects at the local planning level. This would, according to the invited speakers, entail proactively opening specified geographic zones, so-called “best fit/least conflict” areas, to utility-scale development while streamlining -- in essence, pre-approving – any applications for projects proposed in them.

According to Commissioner Karen Douglas, unless this planning approach is adopted, it will be business as usual, where a developer picks a site for a proposed project and “then everybody says what is wrong with it.” However, whatever its faults, the conventional method of reviewing and approving (or disapproving) projects makes possible the participation of those people who live and recreate in the environs of project sites, as well as local municipalities and counties with jurisdiction over them.

Top-down, landscape level planning and pre-approvals would cut the local populace out of the planning process and usurp local governmental planning authority. This prospect received no mention at all among the invited speakers at the Workshop, who were – with the exception of Lorelei Oviatt of Kern County -- representatives of government agencies, utilities and large

environmental NGOs.¹⁰ The Workshop's implicit – and unspoken -- ethos can best be summed up as follows: meeting the State's RPS goals is of such paramount importance that lots of utility-scale projects will have to be constructed fast in the more sparsely-populated portions of the State – with their sunshine, wind and sparsely developed lands -- even though that will impinge on local populations and governments and negatively affect natural habitats; the State will just have to do its best, while picking geographical winners and losers at the landscape-level, to minimize the damage that will take place at the local level; large-scale energy projects have to go somewhere.

Under this skewed, result-driven planning approach, certain non-urban areas are targeted as the “best fit” precisely because they will, in planners' estimation, generate the “least conflict,” i.e., minimal local push-back to proposed utility-scale projects.¹¹ But ignoring the renewable energy and land use priorities of the local populace and governmental authorities would make for very poor planning, and it would most likely represent an unlawful usurpation of local governmental authority. There is a very good reason why local governmental bodies are now legally vested with the ultimate decision-making power in such matters. It means that land use planning decisions are made by “boots-on-the-ground” officials with a thorough knowledge of the land in question, of local planning concerns/priorities and of their decisions' likely ramifications; and it allows area residents – the persons who would most directly experience effects wrought by utility-scale projects (noise, dust, viewscape alteration, lowered property values, groundwater depletion, loss of habitat intactness¹² and the like) – to weigh in on the process through those officials.

¹⁰ Ms. Oviatt, the head planner for Kern County, is, however, an outspoken proponent for utility-scale energy development and for fostering its proliferation through landscape-level pre-approvals. One of the pluses of that approach, according to Ms. Oviatt, was that there would be reduced costs because less county planning staff involvement would be needed.

¹¹ This raises a variety of economic justice concerns given that many residents of the targeted non-urban areas are working class or lower middle class, and that many are employed in a tourist industry predicated on environmental intactness (see Fn. 12).

Moreover, this approach is contrary to the planning vision enunciated at the September 10, 2015 Joint Agency Workshop that commenced the RETI 2.0 process (as will be discussed below).

¹² Such projects do, in fact, destroy the intactness of the State's relatively undeveloped land, and the value of tourism, recreational and related uses to San Bernardino County. The value of keeping its deserts intact has been estimated at **\$1 Billion per year** according to a University of Idaho study discussed in Basin Energy Assessment Team's “Renewable Energy Analysis” (October 2013).

And local governmental authorities (other than Kern County) are hardly lining up to surrender their land use planning authority to accelerate the spread of utility-scale projects. In fact, San Bernardino County (the “County”) – after carefully considering a variety of viewpoints -- is moving in the direction of confining utility-scale renewables to several discrete geographic areas featuring serious degradation of land and biome, proximity to existing transmission, distance from population centers and low conservation values. The County’s position in this respect is reflected in the following documents:

1. The most current draft of the County’s proposed Renewable Energy and Conservation Element (“RECE”) essentially calls for the confinement of utility-scale renewable energy to five limited areas of the County. The RECE strongly emphasizes community-oriented renewables,¹³ and points toward a much more enlightened emphasis on a point-of-use, Distributed Generation model. (We believe that this model promotes the highest number of long-term high paying local jobs, sustains the tax base through property value preservation, and protects the valuable open spaces so critical to the economies of desert communities. We also believe that it is the fastest, safest, and cleanest way to ramp up renewable energy generation);

2. The five areas in the RECE were based on a February 17, 2016 Resolution of the County’s Board of Supervisors, addressed to the Bureau of Land Management, which called for limiting new utility-scale projects to these five areas;

3. The County submitted the above-referenced letter criticizing the draft DRECP (dated February 20, 2015); and

4. James Ramos, as Chairman of the County Board of Supervisors, directed a letter to the Commission, dated July 29, 2016, in which he took issue with RETI 2.0’s de facto adoption of the draft DRECP, stating that “[w]e are somewhat perplexed by the shift from the DRECP to RETI 2.0.” Here, he is politely, but unmistakably, expressing serious discomfort with the fact that RETI 2.0 had become a continuation of the draft DRECP. Chairman Ramos also reminded the Commission that the County has adopted the Resolution, while noting that the County has never received any substantive response to its stated concerns.

Landscape-level planning at a state-wide level must not be imposed to supplant local land use planning authority. Otherwise, it would run rough-shod over the planning preferences and jurisdiction of local governmental bodies like the County, and effectively exclude the viewpoints of the local populace most affected by particular proposed projects.

¹³ Community-oriented solar is designed to power small adjacent populations, so no new transmission corridors need be opened to accommodate such generation. In stark contrast, utility-scale renewable projects are wholly dependent on an ever-expanding and far-reaching transmission grid.

3. Assumption No. 3 -- That Utility-Scale Renewables Will Continue To Be the Primary Tool for Achieving this State's Renewable Energy Mandates – Is Unfounded Because Utility-Scale Projects Have Become Technological Dinosaurs.

Traditional energy planning tools, i.e., the designation of certain zones for development of centralized, utility-scale renewables and related transmission infrastructure, is fast becoming a relic of the past. That mode of generation is being rapidly eclipsed by far-reaching advances in behind-the-meter Distributed Generation, which produces clean energy without requiring costly and environmentally-damaging new transmission infrastructure;¹⁴ in battery storage, which promises to obviate the oversupply/undersupply issue; and in increases in energy efficiency, which greatly reduce the need for power generation.¹⁵

A. The Commission Has Made Pronouncements Reflecting the Need to Abandon Utility-Scale as Its Primary Strategic Planning Option.

To begin with, the Commission has long been fully cognizant of the fact that site-specific Distributed Generation (“DG”) has a vast, and largely untapped, capacity for satisfying the State’s energy needs. In 2007, it commissioned a well-researched study known as the “PIER study,” which concluded that California has 68,000 MW of reasonable site-specific DG potential.

That potential is in fact being tapped all across the State, which inspired the Commission to state, in its Distributed Generation Strategic Plan, that “[w]e are at the threshold of reinventing the electric power system.”

¹⁴ Due in part to the high cost of building the plants and the transmission facilities needed to connect them to the grid, Californians pay the second-highest electricity rates in the lower forty-eight states, after certain parts of New England. Any new wave of utility-scale projects would require a large and prohibitively expensive amount of additional capital expenses in terms of transmission, which cannot be blithely heaped on the backs of ratepayers. According to an estimate obtained by ADP from Flynn Resource Consultants, Inc., the new 500 KV lines posited in Alternative 1 of Appendix K to the DRECP, which are needed to handle the utility-scale renewable energy projects it seeks to fast-track into DFAs, would cost between \$10 Billion to \$22.5 Billion. To paraphrase a panelist at the Joint Agency Workshop, the best transmission is the one that is not built.

¹⁵ According to a Tracking Progress report from the Commission, there was a doubling of cumulative energy efficiency between 2000 and 2013.

In that same vein, Chairman Weisenmiller and CPUC President Picker stated as follows (in a March 14, 2015 article in the *Sacramento Bee*):

“One thing is for sure – the next few years of electric power will be as different as the past 10 years of renewable energy development was from the past 50 years of fossil fuel power plants. More of the same policies will not do the trick.”

These forward-looking aspirations are also reflected in pronouncements made at the September 10, 2015 Joint Agency Workshop that kicked off the RETI 2.0 process. The participating agencies, including the Commission, spoke in favor of taking a fresh look at geographical and technological diversity, engaging with local governments to build consensus, maximizing existing transmission and integrating environmental concerns, stating, among other things, that: (1) RETI 2.0 would abandon RETI 1.0's emphasis on “getting things [i.e., utility-scale projects] built,” and that, given that renewable energy generation is now established, there is not as much “tension on the need to force [utility-scale] projects;” (2) it is time to step back, take a breath and use RETI 2.0 to take a fresh look at “best fit,” geographical and technological diversity, consensus-building, engaging with local governments, maximizing existing transmission and using renewable energy as part of the solution on the integration and reliability side; (3) RETI 2.0 would be more “nuanced and vigorous in terms of integrating environmental concerns” in the planning process; and (4) because we now know a lot more than we knew when RETI 1.0 was launched in 2008, and because so much has changed in the energy economy since then, previously unavailable strategic options can be now be brought into the mix.

Why then did RETI 2.0 wind up looking and talking a lot like RETI 1.0 – with its overweening emphasis on getting things built? And why is this same thing happening with IEPR?

We urge the Commission to remain true to its own stated vision by fully embracing site-specific DG, energy efficiency and battery storage as viable “strategic options” that supplant centralized, grid-oriented utility-scale generation as the primary tool for achieving state-mandated energy goals, and by articulating a transmission plan that integrates these options fully into the plan. The whole point of the RPS and GHG goals is to reduce greenhouse gases, as per AB 32 (the “California Global Warming Solutions Act of 2006”). For this purpose, a kilowatt of rooftop solar is just as good as a kilowatt of utility-scale solar. Our State’s environmental goals do not mandate a single-minded reliance on utility-scale plants and transmission, and any purported justification for excluding anything behind the meter should be examined closely and with healthy skepticism.

B. The Technology and the Energy Markets Are Already Choosing Site-Specific, Distributed Generation, Battery Storage and Community Solar Over Centralized Generation.

Utility-scale energy projects – and related transmission projects -- are rapidly becoming obsolete. They are too expensive, they entail enormous needless transmission costs (see Fn. 14), and they create big environmental and economic problems. The expertise, the money, and regulatory momentum are moving in the opposite direction, toward site-specific DG, teamed with a hard-hitting package of innovative efficiencies and conservation techniques.

If anyone doubts that the energy picture is being rapidly and completely transformed, these doubts are quickly dispelled by the executives and trade groups of the companies that have the most to gain by keeping the old system in place: the utility companies.

According to the “2015 State of the Electric Utility Survey Results (Here’s What the Utility of the Future Looks Like, According to Over 400 U.S. Electric Utility Executives),” which is published by Utility Dive Brand Studio in association with Siemens, utilities are moving away from “the traditional vertically integrated utility model toward a more distributed, service-based model.” In other words, according to the survey, DG is seen as the biggest driver of industry growth, while “[t]he opposite of distributed energy – centralized generation – seems to offer little promise of future revenue to utilities. Once a profit center, central station power is viewed by only 8% of utilities as their biggest growth opportunity.” The reason for this pronounced shift: “In 2015, the U.S. electric utility is in a state of transition . . . Emerging technologies, shifting consumer expectations, and new energy economics are causing the industry to rethink the business and regulatory models that have served them for over 100 years.”

Edison Electric Institute, the utilities’ trade group, warned members (in a January 2013 report) that DG and companion factors have put them in the same position as airlines and the telecommunications industry in the late 1970s. Essentially the same point was made in an article in *Bloomberg Business*, entitled “Why the U.S. Power Grid’s Days Are Numbered” (August 22, 2013).

David Crane, as CEO of NRG Energy – an energy giant with more than \$6 billion in assets world-wide -- agrees that the old model of the U.S. electrical grid, with its centralized power plants and lengthy transmission lines, is doomed to obsolescence (according to the *Bloomberg Business* article mentioned in the previous paragraph). He said that in about the time it has taken cell phones to supplant land lines in most U.S. homes, the grid will become increasingly irrelevant as customers move toward decentralized homegrown green energy, and that some customers, particularly in the sunny West and high-cost Northeast, already realize that “they don’t need the power industry at all.” Mr. Crane’s championing of decentralized DG is particularly noteworthy, given that NRG Energy was the developer of the Ivanpah solar thermal plant.

It is easy to see the potential in DG: The rooftops and parking lots are in close proximity to the consumer, and they present none of the vexing environmental problems presented by large-scale energy plants. UCLA’s Luskin Center for Innovation did a study showing that the rooftops in Los Angeles County alone could accommodate over 22,000 megawatts of DG solar

panels. The above-referenced UCLA study is available at <http://innovation.luskin.ucla.edu/sites/default/files/Bringing%20Solar%20to%20Los%20Angeles.pdf>.

A 2009 Black & Veatch and Energy and Environmental Economics, Inc. report to the CPUC found 11,543 megawatts of large (greater than 1/3 acre) urban rooftop capacity and 27,000 megawatts of ground-mounted capacity near existing substations. A June 2010 update of the study found that California has a capacity of 55,000 megawatts of decentralized solar photovoltaic (over 100,000 GWh/ year).

California already has an installed capacity of 5,337 MW of rooftop solar, according to the official website for the California Solar Initiative (which also notes that this State leads the nation in rooftop DG).

Community solar can be used by households lacking solar-ready roofs. According to a November 21, 2016 article by Greentech Media – a research company that tracks clean energy markets – between 2010 and 2015, community solar installations nationwide reached almost 100 MW. The Greentech Media article also reports that, according to the National Renewable Energy Laboratory, community solar could make up half of the distributed PV market in 2020.

The Wall Street Journal reported, in a September 13, 2016 article (entitled “To Cut Energy Bills, Companies Tap Battery Power”), that “big box” stores, and companies of all kinds, are turning increasingly to energy storage systems to reduce their energy consumption; that article also noted that California is requiring the big utilities to install or help coordinate the installation of 1,325 MW of energy storage, and that California offers homeowners and commercial property owners rebates that can cover as much as 60% of the cost of a battery system.

Indeed, as stated in the Commission’s above-quoted Distributed Generation Strategic Plan, “[w]e are at the threshold of reinventing the electric power system.”

By shrewdly taking note of just how much DG and battery storage has already supplanted centralized generation, the Commission is perfectly positioned to anticipate residential and commercial development which employs these new technologies and efficiencies.¹⁶ It is equally well positioned to avoid an initiative which encourages the destruction of significant further

¹⁶ We are fortunate that the State’s Legislature and regulators have already acted to smooth the way for adoption of policies and plans consistent with the new energy paradigm. Together, these statutes, rulings and programs provide a comprehensive roadmap enabling the formulation of truly forward-looking energy planning. ADP has discussed, in previous letters to the Commission regarding RETI 2.0, some of the most important such laws and programs, and ADP provided specific examples of how certain counties and cities have taken advantage of them.

portions of the State's deserts and Central Valley with outmoded large-scale solar projects, wind turbine plantations and transmission infrastructure.

C. Because Energy Technology and Economics Are Changing So Rapidly, the Commission Should Proceed Slowly and Deliberately.

It is worth considering the enormous problems that the “rust belt” cities were stuck with when rapidly changing technologies and business models left their industries behind. That is where the state stands today when it comes to energy. Unlike the “rust belt” cities, we have advance warning, and the opportunity to take advantage of it.

According to the above-cited 2015 survey of over 400 utility executives, utility companies are moving away from the traditional vertically integrated model toward a more distributed, service-based model. These executives point to emerging technologies, shifting consumer expectations, and new energy economics. Our regulators agree, so much so that, as noted above, the Commission's Distributed Generation Strategic Plan states that “[w]e are at the threshold of reinventing the electric power system.”

In view of the sweeping change in the energy economy, we would propose that the Commission allow itself the flexibility to proceed slowly, cautiously and quite restrictively when it comes to industrial-scale and transmission projects. This would allow the Commission to keep its finger on the pulse of energy trends and to adjust its planning efforts in the face of them.

Why adopt a phased approach? Because we can only ratchet in one direction. Once an acre of land is scraped in order to site a new transmission facility, the damage persists indefinitely for all practical purposes.

The EPA, in its February 25, 2015 comment letter regarding the DRECP, recommended a phased approach for implementation of the DRECP, noting that it should – on a regular basis -- “[u]pdate the evaluation of the amount of renewable energy that may need to be produced in the Plan Area by 2040 to meet State of California and federal renewable energy goals, in light of the market and policy developments discussed above.” The Commission would benefit by taking heed of this very sound advice.

4. Assumption No. 4 – That New Transmission Will Be Required to Support All the Posited New Utility-Scale Renewable Energy Projects – Is Unfounded According to the RETI 2.0 Plenary Group Report.

The RETI 2.0 Plenary Group Report (the “PGR”) acknowledges that, if an “energy only” approach is adopted, there would be no need for an expanded grid, even if the predicted influx of

utility-scale projects emerges,¹⁷ and that dynamic scheduling and other procurement arrangements make “energy only” just as viable as “full capacity deliverability.”

As corroborated on a slide at the March 16, 2015 RETI workshop: “there is a growing interest in shifting the transmission paradigm from FCDS [full capacity] to energy only (EO),” and that **with EO there would be “[n]o transmission upgrades to ensure deliverability.”** (Emphasis added.) The slide goes on to say that this “[r]eflects a shift in how to think of transmission need: infrastructure is sized to allow delivery of energy rather than capacity” and “[c]ould allow much fuller utilization of existing infrastructure.”

But, even though this paradigm shift would have a transformative effect on transmission planning – by eliminating the need for new wires – it was not seriously discussed at the Workshop. The proposition that FCDS will continue to predominate was left unexamined.

Even if it does, there would be sufficient existing transmission capacity to achieve many, if not all, of the system’s obligations through a “business-as-usual” approach, according to the PGR, but for what it calls the “Desert Area Constraint” (and a few other specific transmission limits in specific areas).

Nevertheless, the official published notice for the Workshop reported only that, according to the PGR, “greater reliance on renewable energy may require additional transmission or restructuring of the transmission system to achieve clean energy goals . . .” In light of the nuanced report stated on the subject in the PGR, the assessment in the official notice is misleading.

In any event, the working assumption at the Workshop seemed to be that new transmission would be needed. We urge the Commission to carefully reexamine – and, ultimately, to discard – this assumption in light of the conclusions stated in the PGR and the County’s plan to restrict utility-scale development. Moreover, some Workshop participants spoke of developing “non-wires alternatives,” i.e., advanced conductors and the like, to expand the existing grid’s capacity, which would obviate the need for new transmission; these alternatives should certainly be given further study.

5. Conclusion.

For the reasons stated above, the IEPR need not, and must not, pick up where the DRECP and RETI 2.0 left off, especially given that there are several viable alternatives for meeting our State’s RPS goals, including point-of-use DG, community solar, energy efficiency and battery

¹⁷ The County’s pending restrictions on utility-scale projects will greatly reduce the need for new transmission lines.

storage. We urge the Commission to drop the assumption that, in order to meet our energy goals, we must accept the extensive habitat loss caused by utility-scale projects.

Forcing a flood of utility-scale projects and new transmission throughout California's rural lands, by means of a top-down, landscape-level approach, would diminish and fragment – perhaps irrevocably – our human and natural communities, and lead to bad energy and land use planning. A true site-specific environmental analysis must be undertaken along the lines stated in Ms. Penrod's reports, where geospatial mapping would be the jumping off point for a thorough analysis, not the end point it was for the DRECP.

In sum, while the REAT agencies believed themselves bound by their legal mandate to skew the DRECP process toward siting and fast-tracking immense amounts of utility-scale projects, the Commission is under no such compunction. Hence it need not fall in line with, and emulate, the flawed analytical processes embodied in the draft DRECP or the BLM LUPA.

We look forward to participating in this process, and thank you for considering the points made in this letter.

Very truly yours,

Alliance for Desert Preservation

A handwritten signature in black ink, appearing to read "Richard Ravana", written in a cursive style.

Richard Ravana, President