

Why Riverside and San Bernardino Counties Should Be “Solar Valley”

**Drafted by the UCR Solar Consortium
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Riverside and San Bernardino Counties – Inland Southern California – can become the most attractive region for solar power in the U.S. There are natural advantages here – uniquely here – that argue for policies and a local tax structure to advance the cause of solar energy and capitalize upon its already-considerable local investment.

As the region inevitably grows and California moves toward its 2030 renewable resource goals, there’s an opportunity to balance development with good environmental policy, population increases with plentiful, reliable energy. The means to accomplish those objectives lies with the expansion of solar power and receptivity to the challenges of siting, financing, transmitting, interconnecting, and operating solar installations. The potential economic and social benefits present compelling reasons for Riverside and San Bernardino Counties to strive to become Solar Valley.

Inherent Advantages

Riverside County has the highest level of solar insolation (*exposure to the sun’s rays*) available anywhere in the U.S., and San Bernardino County insolation is very high, only slightly less. Vast tracts of land suitable for utility-scale solar projects are available in both counties. Full utilization of these assets, observing environmental and residential concerns, could supply growing populations with clean power for industrial/commercial and private use, stimulating growth of a whole new landscape of green businesses.

The region’s academic institutions are already leading research into solar technologies, energy storage, and the new field of microgrids, such as UCR College of Engineering’s Center for Environmental Research & Technology (CE-CERT) Southern California Research Initiative for Solar Energy (SC-RISE). San Bernardino County institutions – CSU San Bernardino, University of Redlands and Loma Linda University have strong engineering, environmental science and earth sciences programs as well; they constitute a valuable present resource.

Beyond solar technology, the clean energy field encompasses broad storage solutions; new grid controls and electronic components; and emerging transmission technologies. The region’s large community college systems and highly-engaged workforce development boards contribute strong training resources to integrate these opportunities and support solar energy efforts.

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In solar development, the two counties already have a head start over much of the U.S. According to the *2019 California Green Innovation Index*, the Riverside-San Bernardino-Ontario MSA ranks second (2nd) across the board in commercial, industrial and residential solar installations (up from 6th in 2017). Among the “Solar Stars” identified in *Shining Cities 2019*, the City of Riverside is eighth (8th) nationally for photo voltaic solar installed per capita and sixteenth (16th) in overall installations.

Importantly, solar power generally has a good public reputation. With siting policies that are community-inclusive and environmental policies that address species protection, solar energy can deliver what the public needs – improved air quality, job expansion and increased housing opportunities – all made possible by providing safe, reliable clean energy at reasonable rates.

The research and business activities represented by this emerging field have enormous potential for Riverside and San Bernardino Counties economic development.

Solar energy today

Inevitably, the generation of solar power requires land. How it is valued and treated is central to how much solar can be deployed. At the moment, large tracts of land have been (intentionally or inadvertently) removed from the inventory of available land. This situation needs review.

The Counties should study and determine how best to protect solar-developable land, formulating regulations to accomplish this purpose, and how solar energy can be extended to benefit underserved populations. Land valued at \$900/acre will not be developed. The solar industry should be consulted, and County policies should be drafted to encourage development. The needs and resources of the region’s Native American tribes should be incorporated into plans.

Energy Storage: Energy storage is currently the missing link in our electricity systems. It is the holy grail of the utility industry. Coupling it with solar generation moves solar power from an intermittent source delivering power when the sun is shining to a flexible and dispatchable resource that can deliver power dependably and improve grid reliability. Solar paired with energy storage competes favorably with fossil and nuclear generation, and it’s a game changer for the energy industry. A fully competitive energy market at the state and local level also can transform what the energy grid future could look like, and how it could be operated.

Transmission and Interconnection: Enabling sufficient transmission is required to capture solar from where it's most appropriate (low-impact open space), and move it to where it's most needed (urban centers). At present, lack of transmission is one of the main impediments to full deployment of solar in Riverside and San Bernardino Counties, although Southern California Edison's West of Dever project is a notable exception. The Counties must plan now to enable new and expanding transmission. Planning new transmission requires a long-term commitment. The Counties should allocate resources to coordinate with all local, state and federal agencies, draft long-term plans and take the lead in coordination.

Jobs: Jobs related to solar power have been the fastest-growing sector of jobs in the nation. The jobs themselves range up and down the economic scale – from residential installation, to manufacturing, architecture and design, engineering, financing, construction, operation, consulting and research. From solar crew lead to project manager, typically jobs in the solar sector are well paid. Riverside and San Bernardino Counties as centers for solar expansion will be able to provide good jobs for growing populations eager to be trained in high-tech skills with compensation sufficient to support families.

Education: Educational resources at the high school through university levels are substantial already. The Counties lead with energetic, highly coordinated Workforce Development Boards. Their efforts are complimented by numerous K-12 and community college programs, such as those at College of the Desert, Chaffey College and Norco College, and multi-institution/private sector training, like that offered through Chaffey's InTech Center. Full advantage should be taken of locally-based university research in solar technology.

The Regulatory Environment

Since solar has become established as an energy system resource, it is viewed by all levels of government as a potential revenue generator. Cities, counties, states and the federal government have imposed fees or created regulatory hurdles on installations that come under their jurisdiction. This has made it difficult at times for solar companies to develop new projects.

Also, the value put on land has been and continues to be a limiting factor. The regulatory gauntlet that businesses must run is onerous, particularly at the local level. Rules for solar permits, planning requirements and other regulations are scattered among agencies and municipalities, so developers and the public must initiate multiple

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contacts at different levels. The Counties should create leadership positions to coordinate and harmonize the various rules – at all local levels – that govern solar energy and associated projects.

To coordinate municipal and county activities and encourage solar expansion, the Counties should establish management positions to coordinate, monitor and assist solar economic activity. To the extent possible, “One-Stop Shop” models should be utilized, similar to that employed under “Go Solar California.”

Local ordinances and state/federal statutes and regulations present barriers to solar expansion and impediments to economic benefit. A thorough review of policies and their impacts should be undertaken with the objective of clarifying and coordinating the regulatory framework. In the drafting of future regulations it should be recognized that different industry sectors may require different treatment in ordinances, statutes, and regulations. Solar industry input throughout the drafting process is important.

Working with trade and professional associations, the Counties should compare this region with other California counties/sub-regions to measure incentives and solar industry regulations in other jurisdictions. Streamlined policies should be adopted on a “Best Practices” basis.

The Counties’ solar program managers should collaborate with federal and state agencies to support strong solar policies and simplify requirements at the various levels. Through their Legislative Affairs offices, existing and proposed legislation and solar development regulation changes should be monitored and reviewed on a regular basis.

The California Solar Initiative, which sunsetted in 2016, presents a strong role model for local governments. Much of Riverside and San Bernardino Counties’ residential solar initiative could be patterned after the New Solar Homes Partnership (NSHP) tool kit designed to assist counties and cities. Significantly, California Governor Gavin Newsom has committed his administration to supporting the state’s inland regions and efforts to meet the state’s renewable energy mandates. This should not be overlooked.

The public must not be left out of the process. The Counties should ensure that the enactment of solar policies is community-inclusive. Every effort should be made to build public support, not merely announce policies after they have been implemented.

Economic incentives

Within Riverside and San Bernardino Counties, several municipalities, e.g., Palm Springs and Rancho Mirage, have enacted solar policies and ordinances that encourage installations and support the industry. Some reduce the cost of permits. Others require solar on all new residential buildings. The Counties should encourage other municipalities to adopt similar measures, an undertaking that would be welcomed by the industry and would contribute to increasing solar deployment.

The Counties should establish or enhance economic development programs to attract solar business and investment in the solar industry, emphasizing our region's natural advantages and the value of clean technologies. In any policy or incentive, energy storage – battery, pumped or thermal – must be considered. Since the integration of storage into the grid is a new field, consultation with industry representatives and some policy flexibility governing this vital area will be essential.

Tax relief, fee reductions and other economic incentives are measures susceptible to analysis. Recognizing the fiscal constraints under which Riverside and San Bernardino Counties now operate, they may determine the value and desirability of such incentives as they deem appropriate. To whatever extent possible, fees, taxes and other programmatic barriers should be minimized.

Final Recommendations

1. The Counties should establish or enhance economic development programs to attract solar business and investment in the local solar industry. Involvement of the region's Native American tribes and potential service to underserved populations should be important components of the counties' plans.
2. The Counties should establish management positions to monitor, assist and promote solar economic activity and coordinate project development activities.
3. The Counties should determine how best to protect and promote the use of developable land for solar and adopt or amend appropriate ordinances addressing the issue.
4. The Counties should create or update long-term plans to identify transmission corridors and enable transmission projects to be built or expanded and take the lead among affected agencies to assure effective coordination of permitting activities.
5. The Counties should compare Riverside and San Bernardino Counties, separately and as a region, with other California counties in order to promote solar

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- incentives and regulations and remove regulatory barriers. The Counties should adopt streamlined policies on a “Best Practices” basis.
6. The Counties should encourage municipalities to adopt policies that support and encourage solar development.
 7. Riverside and San Bernardino Counties should strive to eliminate existing barriers and establish policies attracting and supporting solar investment and development on land suitable for such development.

Inland Southern California’s natural advantages and existing resources can enable the two counties to be a leading U.S. region for solar development, clean technology and a dynamic, expanding economy. But such a future is not guaranteed. It will take a conscious effort and some investment to realize potential available to few other U.S. locations.

Available land and near-constant sunshine may be the basis of the opportunity, but careful planning, solar industry partnership, committed local leadership and public support ultimately will determine the outcome and whether Riverside and San Bernardino Counties will come to be considered “Solar Valley.”

ENDNOTES:

Shining Cities 2019, Environment America Research & Policy Center, Table ES-1, The “Solar Stars,” page 6.
2019 California Green Innovation Index, Next 10, Regional Scorecards, page 70.

NOTE: Since this paper was drafted, Inland Southern California and the world have been gripped by the dangers and challenges triggered by the Covid-19 pandemic. With the re-opening of California’s economy, there will be an opportunity to re-affirm the state’s renewable energy goals, including solar energy as a safe, reliable, environmentally-sound energy solution.

There is certainly an appropriate role for solar energy development in this region. Both Riverside and San Bernardino Counties should include solar energy as a major priority in near-term economic planning.