

RECURRENT ENERGY

PROPRIETARY & CONFIDENTIAL

Solar Development Guidelines and Permitting Recommendations for
UC Berkeley Local Government Climate Change Policies Meeting

December 2011

RECURRENT
ENERGY

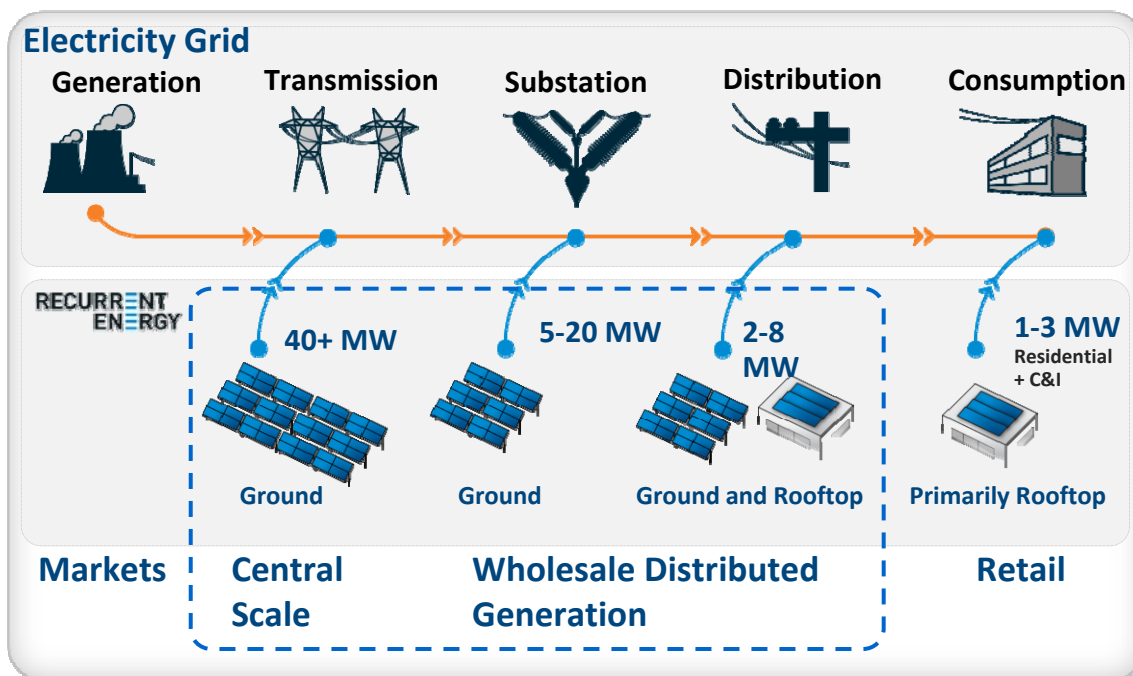


RECURRENT ENERGY: BUSINESS OVERVIEW

- 2.4 GW project pipeline and 450 MW portfolio of signed contracts makes Recurrent Energy one of the largest PV developers in North America
- Primary solar development company for Sharp Corporation worldwide



Recurrent Energy has the resources, experience, technology, and access to capital to deliver utility solar at any scale.



PPA & FIT PROJECT HIGHLIGHTS



Operating Projects

Spanish Rooftop	5 MWstc, FIT	Operating	Spanish feed-in tariff. Summer 2010 COD.
SFPUC/Sunset Reservoir	5 MWstc, PPA	Operating	25-year PPA with SFPUC. Fall 2010 COD.
Kaiser Permanente	15 MWstc, PPA	Operating/Final COD '11	Multiple projects spread across northern and southern CA.

Contracted Projects

SW Utility Solar Farms	22 MWstc, PPA	COD 2011-2012	Two projects, construction under way.
Ontario Solar Farms	200 MWstc, FIT	COD 2012-2014	20 projects spread across southeastern Ontario.
SCE	83 MWstc, PPA	COD 2012-2013	Projects spread across central/southern CA.
SMUD Solar Farms	88 MWstc, PPA	COD 2011-2012	Multiple projects in Sacramento, CA area.
PJM Rooftop	6 MWstc, Wholesale	COD 2011	Rooftop solar project in PJM service territory.
PG&E	27 MWstc, PPA	COD 2012	Ground-mount solar PV in California.
CA Municipal	27 MWstc, PPA	COD 2012-2013	Ground-mount solar PV in California.

450+ MW Contracted, Operating, or in Construction

SOLAR DEVELOPMENT 101: ROOFTOP IS NOT A PANACEA

A Disappointing Reality – Rooftop PV Can’t Deliver the Necessary Impact

- a. **Insufficient** – aggregated rooftop is still low share of solar penetration necessary in market
- b. **Difficult** – finding viable rooftops is incredibly challenging
- c. **Expensive** – rooftop PV does not have economies of scale like utility scale PV

Policy recommendation - Rooftops Are Important But Not a Critical Climate Policy

Roof Viability Challenges

ISSUE	BINARY RISK	WHY IS THIS A CHALLENGE?	IMPACT
Roof Condition	Yes	Unknown roof condition on many sites; takes thorough structural analysis (\$\$) and time to evaluate	Bad roof condition may invalidate the sites
Title	Yes	Other minority interests, fund restrictions, and/or property covenants can terminate the transaction at the 11 th hour	Potential Site loss
Owner Interest	Yes	Roof rent is low, tough to justify owner’s time spent on project and risk to building tenant	Significant time spent; owner walks away
Interconnection Costs	Yes	Commercial buildings clustered on single feeder limits the penetration of large rooftop solar	Large distribution upgrade cost may invalidate project

- **Recommendations for rooftop PV permitting**

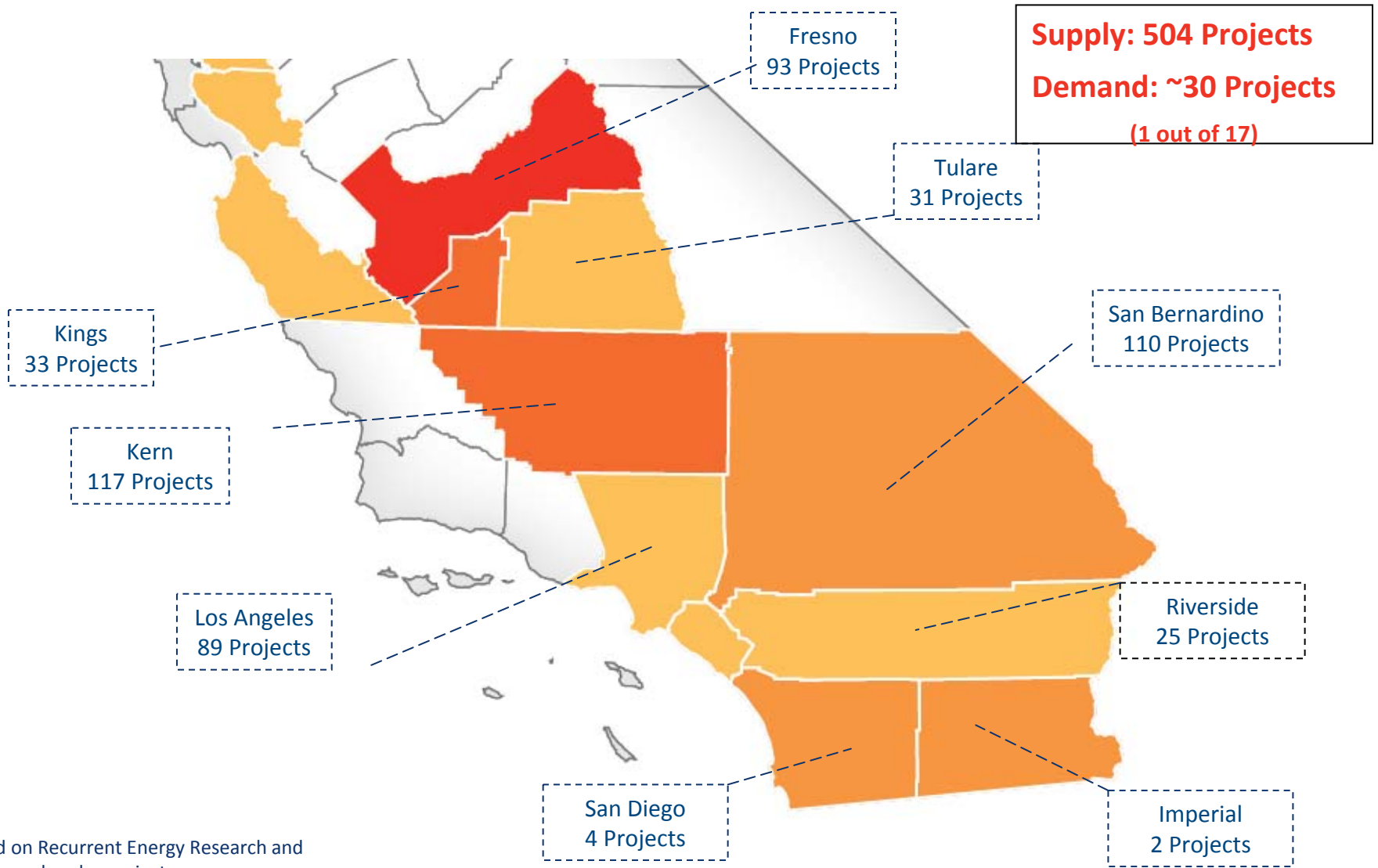
- > Ministerial permit required, only building permit
- > Utilize SB 226
- > Reasonable fees and quick expedited processing
- > Tier 1-3 Guidance Document from CCPDA

SOLAR DEVELOPMENT 101: CRITERIA FOR THE PERFECT SITE



MARKET CONTEXT – FIERCE COMPETITION FOR 20MW PPA

Projects 20MW & Under in CAISO, PG&E, SCE, and SDG&E Interconnection Study Queues



*Based on Recurrent Energy Research and includes only solar projects

LOCAL GOVERNMENT POLICY RECOMMENDATIONS:

WARNING:

1. Predetermined “solar zones” can be flawed
 - a. Grid capacity and distribution is extremely difficult to correctly determine and always changing
 - b. Solar zones could create land rush, driving land prices, creating uncompetitive projects. County loses projects to neighbor
 - c. Creates false hopes/wasted development efforts
2. Uncompetitive and unpredictable county policy will drive developers to neighboring counties
3. High permit fees and slow permitting process will also drive developers elsewhere

LOCAL GOVERNMENT POLICY RECOMMENDATIONS



SUGGESTIONS:

1. Local policy should designate preferred solar project siting criteria
 - a. “Fast Track”: preferred criteria satisfied
 - b. Case by case: preferred criteria not satisfied; merits of project presented to County in project application
2. Programmatic EIR
 - a. Requires big effort in short term but streamlined process for long term
 - b. Master EIR or MND to bundle projects is an alternative
3. Objective, predictable and consistent criteria are critical for business environment
4. Reasonable development impact fees and building permit fees
5. Guidance Document for Solar Energy Facilities
 - a. CCPDA is presenting Guidance Document at Dec 9 meeting

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