



2012 Integrated Energy Policy Report Update Proceeding

Identifying and Prioritizing Geographic Areas of Renewable Development in California

California Energy Commission

May 10, 2012



Background

- CEC prepares IEPR every two years and update in intervening years
- Governor's Clean Energy Jobs Plan in 2010 directed CEC to prepare renewable plan
- 2011 IEPR laid foundation for plan with 5 high-level strategies to address challenges
- Renewable Strategic Plan to be developed under 2012 IEPR Update



Renewable Strategic Plan Workshops

- April 12: Evaluating and Capturing Benefits of Renewable Energy
- **May 10: Identifying Priority Geographic Areas**
- May 14: Minimizing Interconnection Costs/Time
- May 22: Retail Rate and Cost Issues
- May 30: In-state Jobs and Economic Benefits
- June 6: Financing and R&D
- June 11: Minimizing Integration Costs and Requirements



Today's Agenda

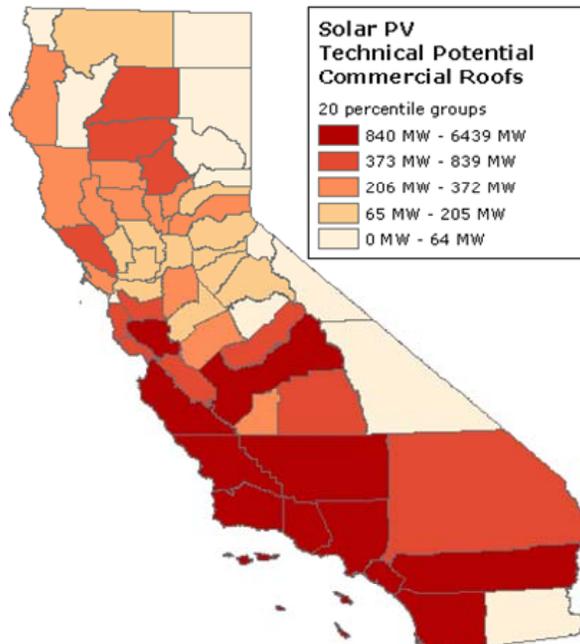
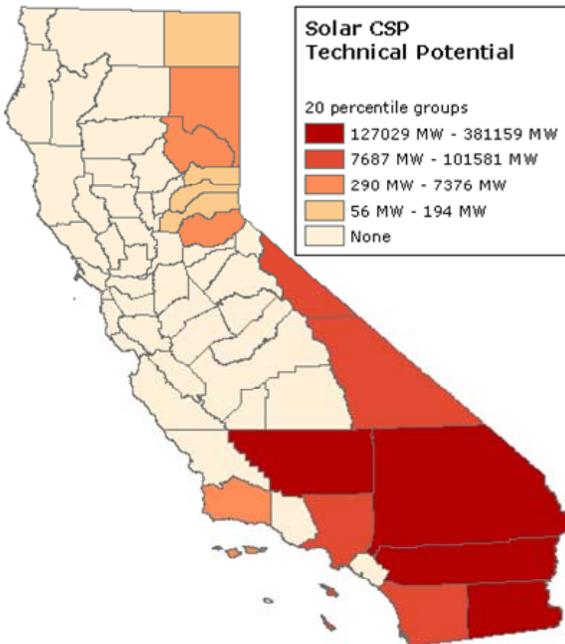
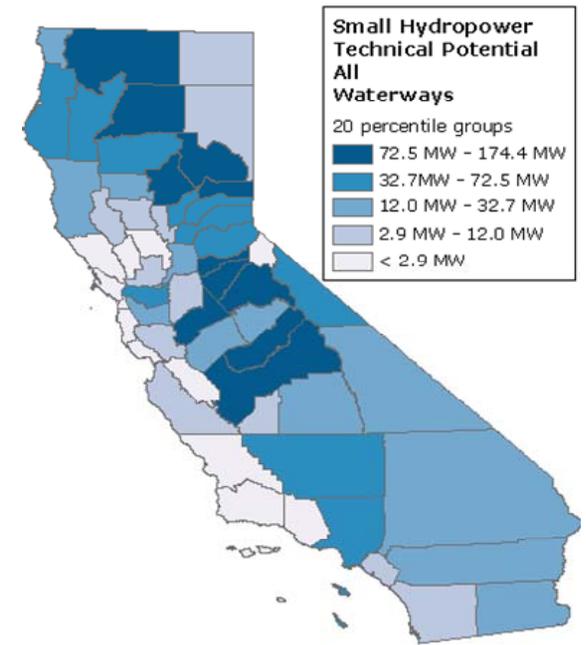
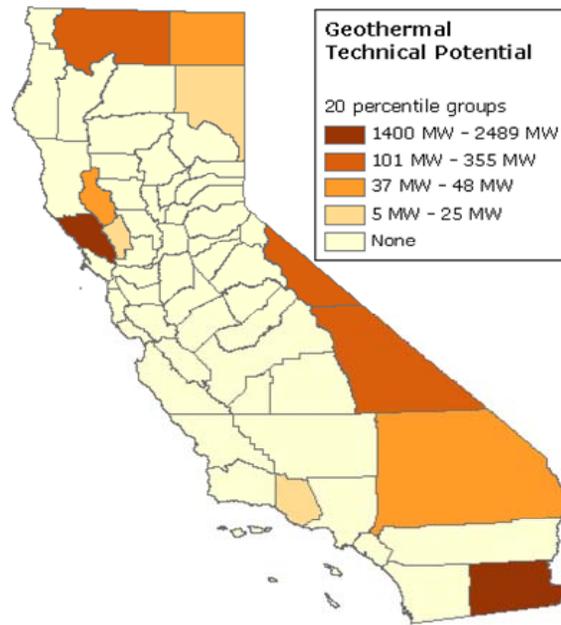
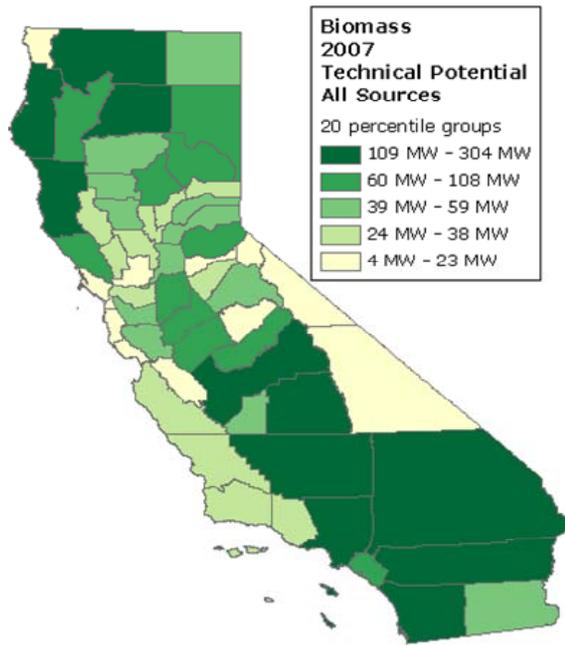
- Panel 1: Preferred Characteristics of Priority Areas
- Panel 2: Regional Strategies to Identify Priority Geographic Areas for Renewable Development
- Panel 3: Developing Local Goals to Build toward 12,000 MW Goal for DG
- Public Comment



Strategy 1

“Identify and prioritize geographic areas in the state for both renewable utility-scale and distributed generation development, particularly distributed generation. Priority areas should have high levels of renewable resources, be located where development should have the least environmental impact, and be close to planned, existing, or approved transmission and distribution infrastructure.

Prioritization should also include increasing efforts between state, local, and federal agencies to coordinate local land use planning and zoning decisions that promote the siting and permitting of renewable energy-related infrastructure in preferred areas.”





Environmental Issues for Desert Renewable Facilities

- Biological and cultural resources
- Water supplies and quality
- Visual impacts
- Visual hazards
- Land use
- Air quality, hazardous materials, noise, public safety, local communities



Environmental Issues for Non-Desert Renewable Facilities

- Solar PV: Ag land, open space, habitat, sensitive species
- Wind: Birds, bats, aviation, noise
- Biomass: Criteria pollutants, particulate matter, land use, ash disposal, water
- Geothermal: Sensitive species, cultural resources, water supplies, visual landscapes



Environmental Issues - DG

- Larger DG impacts similar to utility-scale
- Smaller DG may have fewer impacts
 - Small PV - can be located on disturbed land or existing buildings
 - Small wind – individual turbines or small groups to minimize impacts
 - Biomass – small footprints and located near fuel sources
 - Small hydro – refit existing dams or use existing water conduits



State/Federal Efforts

- Renewable Energy Transmission Initiative
 - Identify Competitive Renewable Energy Zones for cost effective and environmentally responsible renewable development
- Renewable Energy Action Team
 - Desert Renewable Energy Conservation Plan to identify areas suitable for development while protecting environment
 - Best practices manual for developers of desert projects
- PIER Program research on low-risk wind sites
- Solar Programmatic Environmental Impact Statement (PEIS)
 - Identify priority locations for solar development on BLM land



Local Government Efforts

- Kern County
 - Renewables in general plan and zoning ordinances
 - Designated areas for wind/solar development
 - Programmatic EIRs
- Imperial County
 - Geothermal overlay zones
 - Master EIRs
- Inyo County
 - Overlay district for solar and wind resources
 - Assessed best locations for renewable development



Environmental Justice Concerns

- Negative impacts on EJ communities
 - Biomass – plants in San Joaquin Valley fined for air quality violations
 - Geothermal – plants in Imperial Valley fined for hazardous waste storage and treatment, wastewater contaminants



Regional Targets for Large Renewables

Transmission Line (s)	CREZ Served	Deliverability Potential with New/Upgraded Lines (MW)	Capacity Permitted in 2010 Associated with the New/Upgrades (MW)	Additional Project Capacity (MW)
Sunrise Powerlink	Imperial North and South, San Diego South	1,700	760	940
Tehachapi and Barren Ridge Renewable Transmission Projects	Tehachapi, Fairmont	5,500	2,810	2,690
Colorado River, West of Devers, and Path 42 Upgrade	Riverside East, Palm Springs, Imperial Valley	4,700	1,825	2,875
Eldorado-Ivanpah, Pisgah-Lugo, and Coolwater-Jasper-Lugo	Mountain Pass, Pisgah, Kramer	2,450	1,470	980
Borden-Gregg	Westlands	800	145	655
South of Contra Costa	Solano	535	155	380
Carrizo-Midway	Carrizo South, Santa Barbara	900	800	100
TOTAL				8,620



Regional Targets for DG

- Preliminary methodology/targets in Renewable Power in California: Status and Issues report
- Methodology revised in response to stakeholder comments
- Regional targets starting point for meeting 12,000 MW goal, measuring progress toward goal, equitable distribution of renewable benefits



Preferred DG Locations

- Renewable Auction Mechanism – utility maps to help identify interconnection points that won't trigger additional studies and upgrades

Utility	Program	Link
PG&E	Solar Photovoltaic and Renewable Auction Mechanism Program Map	http://www.pge.com/b2b/energysupply/wholesaleelectricssuppliersolicitation/PVRFO/pvmap/
SCE	Renewable and Alternative Power	http://www.sce.com/EnergyProcurement/renewables/renewable-auction-mechanism.htm
SDG&E	SDG&E Distribution System Available Capacity for Distributed Generation	http://sdge.com/builderservices/dgmap/
SMUD	Solar Interconnection Map	http://www.smud.org/en/community-environment/solar-renewables/Documents/InterconnectionMap.pdf



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State/Federal Agency Coordination

- CEC, U.S. Dept. of the Interior, BLM
 - Joint environmental review of solar thermal projects proposed on federal land.
- CEC, State Lands Commission
 - Coordination during CEC's thermal power plant review process.
- State of California, FERC
 - Coordinate and share information for reviewing offshore wave and tidal energy projects.
- CEC, General Services, Corrections, Fish & Game, State Lands, University of California
 - Promote development of renewable energy projects on state buildings, properties, and rights-of-way.



Local Government Coordination

- Locals are key to meeting renewable energy goals
- More than half of 9,400 MW of renewables permitted in 2010 under local authority
- Not all counties have energy elements in general plans or ordinances for permitting renewables
- Other challenges
 - Lack of regulatory framework/technical expertise
 - Williamson Act contract issues
 - Staffing/budget



State Assistance

- “California Guidelines for Reducing Impacts to Birds and Bats from Wind Development” (2007)
- “Energy Aware Facility Siting and Permitting Guide” (2010)
- “Best Management Practices and Guidance Manual: Desert Renewable Energy Projects” (2010)



DG Permitting Challenges

- Lack of zoning ordinances
- Inconsistent codes, standards, fees
- Unclear, duplicative, and uncoordinated permitting
- Unknown requirements for environmental review and mitigation



Efforts to Address DG Permitting Challenges

- CCPDA model ordinance for solar facilities
 - Approved 2/2012
- Governor's Conference on Local Renewable Energy Resources
 - Identified priorities for locating DG development
- US EPA Re-Power American's Land Initiative
 - Provided maps of brownfield sites
- Project Navigator study on PV on landfills



Panel 1 – Preferred Characteristics of Priority Areas

- What are specific preferred site characteristics for the three categories and which are the highest priority? Are the three categories mutually exclusive?
- What data sets, information, and resources currently exist that could be useful in identifying geographic areas with preferred site characteristics? What additional data sets, information, and resources will be needed?
- Transparent, publicly available data are needed for state and local governments, utilities, and other stakeholders to make informed, integrated energy planning decisions about priority areas. What are the barriers to making needed data sets more transparent and publicly available?
- How can more transparent publicly available data be used in the future to better inform an integrated energy planning process?



LUNCH

**Workshop will
resume at 12:30**



Panel 2 – Regional Strategies to Identify Priority Geographic Areas

- Would programmatic environmental review minimize project-specific environmental review? Can DRECP be a model for other regions? What would be the next steps if we did a programmatic review for another region of California?
- How are local governments accommodating renewable energy development? Are there examples of recent procurement programs that reflect site preferences?
- How are local and state governments balancing renewable energy development and farmland preservation?
- How can local and state governments advance renewable energy development on EPA tracked sites?
- How are local governments using land use planning processes to capture economic benefits of renewable development? Are local governments providing incentives to attract renewable investment?



BREAK

**Workshop will
resume at 3:00**



Panel 3 – Developing Local Goals to Build Toward 12,000 MW of DG

- Does the proposed methodology provide a sound mechanism for translating the statewide 12,000 MW goal into local targets?
 - Are there additional “levers” or criteria the CEC should include?
 - Are the level weightings appropriate?
- The Energy Commission used the results of the E3 preliminary assessment, “Technical Potential for Local Distributed Photovoltaics in California” to estimate available distribution and transmission grid capacity. Is the capacity information a proxy for least cost, best fit?
- Should the CEC continue to include the Department of Water Resources in the development of soft targets since it is not subject to the RPS?



PUBLIC COMMENT



Next Steps

- Written comments due COB May 17
- For instructions on submitting written comments, see May 10 heading at:

www.energy.ca.gov/2012_energypolicy/documents/index.html