

# Localized Renewable Energy and California Communities



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# What is DG and why is it important?



## *Local residents:*

- ❑ Cost savings
- ❑ Energy choice and autonomy

## *Local community:*

- ❑ Energy “resilience”
- ❑ Less need for more transmission or generation.
- ❑ “Thinks globally, acts locally”
- ❑ Adds local jobs



# Our Long-term Energy Vision



Transition California's energy system to a highly efficient, renewables-based system and electrify transportation.



# Elements of this energy transformation



1. Improve energy efficiency and reduce energy demand
2. **Develop a cleaner, more reliable energy supply**
3. Implement an efficient and responsive energy infrastructure
4. Reduce emissions from the transportation sector

(Source: California Clean Energy Future)



# Developing a cleaner energy supply: Renewables of all sizes are needed



- ❑ Electricity demand will increase with population growth and electric transportation.
- ❑ Along with energy demand programs, we will need more power.
  - ▣ Recent report: State's solar capacity must increase 12% and its wind capacity 7.5% every year between now and 2050 to meet demand increases and our long-term climate goal.
- ❑ **Governor Brown has called for expansion of both large-scale and small-scale energy.**



# Our working definition of Distributed Generation



Energy systems that:

1. Are renewable (technologies and fuels accepted as renewable in state's RPS)
2. Are sized up to 20 MW
3. Are located within the low-voltage distribution grid; or if outside of the distribution grid, supply power directly to the consumer.

# We want DG that can...



- ❑ Increase the **flexibility** and **reliability** of utilities' distribution grids and the state's overall energy system.
- ❑ **Work in conjunction with** other key state energy initiatives, including intelligent grid, energy storage, demand response and electrified transportation.
- ❑ Include a **range of renewable technologies**, including both intermittent and base-load energy sources.
- ❑ Is delivered in a **cost-effective** manner that provides long term benefits to energy consumers and ratepayers.
- ❑ Develops renewable energy resources in **communities across the state**.

# Steps communities are taking toward more local renewables



- Proactive planning: Energy zones with expedited permitting.
  - ▣ California County Planning Directors Association's model solar ordinance
  - ▣ CEC's "Energy Aware Guide"
- Streamline permitting for rooftop solar PV
  - ▣ California Solar Permitting Guidebook
- Financing: PACE? Community Solar?
- Community Choice Aggregation



# How much DG is already in place?



Total Online:  
2,767 MW



Total Pending:  
1,698 MW



**Current DG  
Total  
4,465 MW**

Total  
"Authorized"  
4,018 MW



??  
3,517 MW



**Governor's Goal  
12,000 MW**

# How should 12,000 MW (and beyond) be achieved?



1. Keep current programs on-track. Maintain consistency of policy and programs that are delivering DG.
2. Proceed thoughtfully in considering new programs or expansion of current programs:
  - monitor progress of current and emerging programs
  - when necessary, work to expand or change programs and policies
  - emphasize productive efforts across the state
3. Remove barriers constraining DG: Change elements of current system, both at statewide and localized level.

# Challenge 1: Grid Planning and Integration



Need: Update the state's distribution grids in a manner that allows for integration of more DG.

Actions:

- ❑ Thorough analysis of where may DG bolster or add risk to electric grid.
- ❑ How to build grid “flexibility” storage,
- ❑ Aim DG where it is best provide benefits



# Challenge 2: Interconnection Process



Need: Enable efficient interconnections of DG projects to the energy grid.

## Actions:

- ❑ Implement Rule 21 settlement
- ❑ Coordination with utilities'
- ❑ Interconnection queue that realistic projects
- ❑ Education and interaction



# Challenge 3: Permitting



Goal: Streamline local approval of DG projects.

Actions:

- ❑ Update state codes for solar PV
- ❑ Help local governments streamlining and standardize approval process
- ❑ Maps and Zoning?
- ❑ Clarity and consistency



# Challenge 4: Financing



Goal: Help to catalyze scaled-up investment in all sizes of DG.

Actions:

- ❑ #1: Continuity and certainty within procurement programs and regulations.
- ❑ Support (expand?) promising financing programs
  - ▣ on-bill repayment
  - ▣ commercial PACE programs
  - ▣ Innovative customer side financing
- ❑ Resolve barrier to residential PACE



# Recent progress: Permitting



- Proposed state building code changes this summer.
- Statewide Solar Permitting Guidebook
- County level progress: California Planning Directors Association.



# Recent progress: Interconnection



## Interconnection:

- CAISO rule change
- Changes from Rule 21 settlement
- Coming proceeding at the CPUC



California ISO  
Shaping a Renewed Future

### News Release

For immediate release | May 17, 2012

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#### ISO helps advance mini-solar plants and other distributed generation

Easier for small scale projects to count toward utility resource adequacy requirements

FOLSOM, CA – Commercial rooftop solar arrays and other small scale generation will find it easier to connect directly to local electricity grids. The California Independent System Operator Corporation (ISO) Board of Governors today voted to streamline the process for interconnecting distributed generation, which includes renewable projects.

The ISO will annually publish information showing quantities of potential distributed generation at various grid locations. The assessment will be used by load-serving entities, resource developers and local regulatory authorities in negotiating renewable energy contracts and developing projects.

"The new approach will align ISO policy with the state's goal to accelerate distributed generation – smaller scale resources connected to utility distribution systems and located close to customers," said ISO Board Chair Bob Foster. "This results in a diversified power mix, a key element of transitioning to a greener and more sustainable electricity future."

The benefit of the new interconnection process is that distributed generation will obtain deliverability status in about half the time as the current process. Achieving "deliverability" qualifies projects as eligible for being counted toward the resource adequacy requirements of utilities and other load serving entities. Currently, it can take about two years to obtain deliverability status at the wholesale level because of the in-depth engineering analysis and customer consultation performed as part of the interconnection process.

"Distributed generation projects tend to be smaller and more numerous than power plant projects that connect directly to the ISO grid," said VP, Market and Infrastructure Development Keith Casey, PhD. "We challenged ourselves to find a new and innovative way to help these projects meet a faster timetable for establishing deliverability and negotiating contracts with utilities and other load-serving entities."



# Continuing the conversation



- Regional meetings this fall on the Governor's DG initiative.
  - ▣ Will likely focus on key opportunities and barriers specific to different regions.
  - ▣ Opportunity to engage local governments and other stakeholders.
- Coming webinars:
  - ▣ Interconnection changes with Rule 21
  - ▣ Statewide permitting guidebook