Energy Action Plan Update on

33% Renewables Portfolio Standard: Implementing the Governor's Goal

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December 15, 2009

California Public Utilities Commission Renewables Portfolio Standard Implementation

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Energy Action Plan Meeting
December 15, 2009

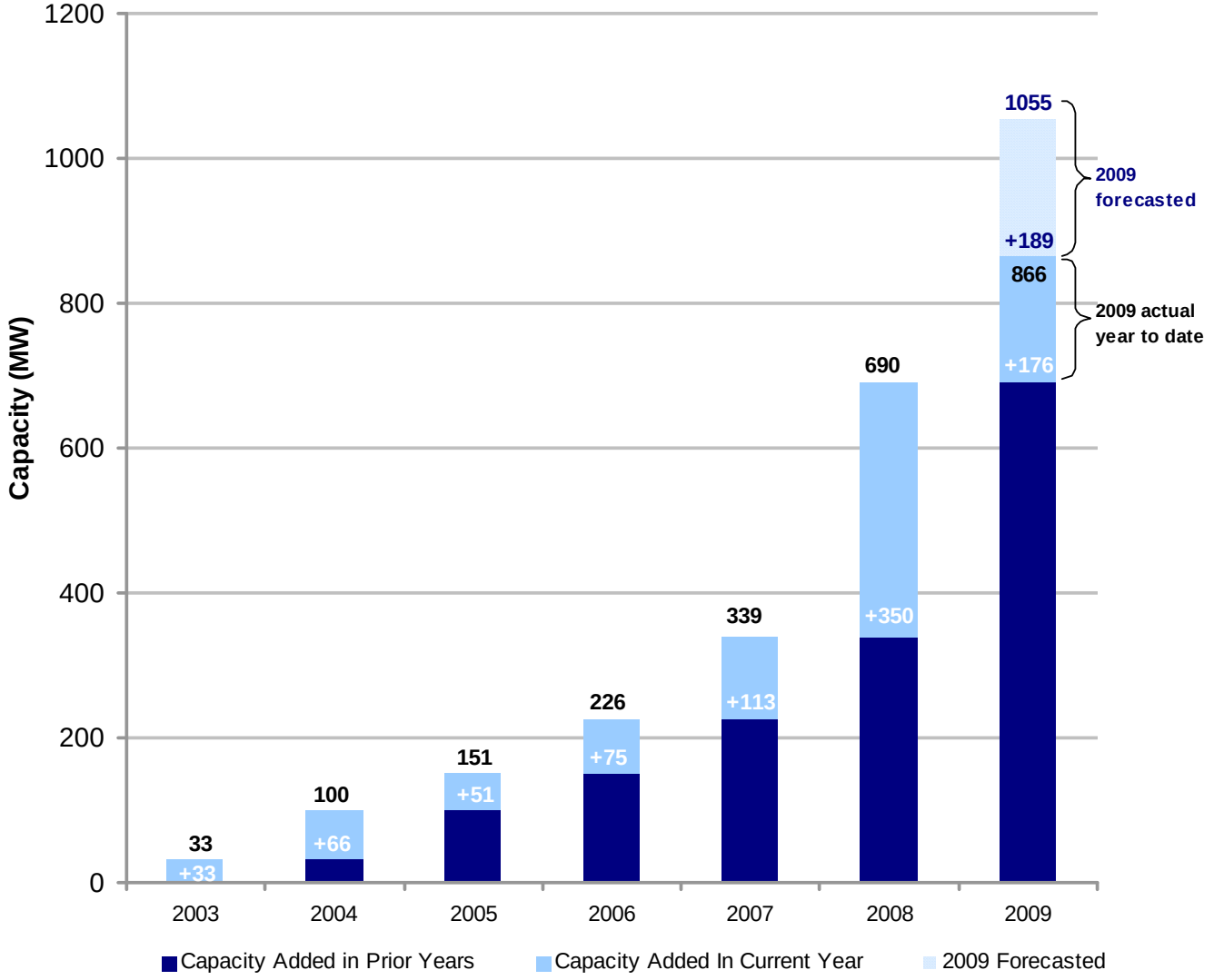
CPUC 2009 RPS Accomplishments

- CPUC approved 23 projects for ~4,400 MW of new and existing eligible renewable energy capacity
- Issued 33% RPS Implementation Analysis
- Proposed Renewable Auction Mechanism
- Approved SCE program for distributed solar PV on utility side of meter
- Adopted fast-track approval process for short-term contracts and review standards for short-term and bilateral contracts
- Designed and adopted “project viability calculator”
- Issued draft 2009 market price referent
- Adopted 2009 RPS procurement plans

RPS Progress

- **CPUC has approved 129 contracts for over 10,271 MW** of new and existing eligible renewable energy capacity
  - 30 contracts for 4,600 MW are currently under review for a total of 14,671 MW
- **917 MW of renewable energy has come online since start of RPS program (2003)**
  - Additional 104 MW is forecasted to come online by end of 2009
- **14.7 MW (18 projects) signed up for AB 1969 feed-in tariff**
- **Recent RPS solicitations have been robust**:
  - Increased participation from larger and more experienced developers
  - IOUs shortlisting 10x their incremental procurement targets
  - California renewable market is maturing

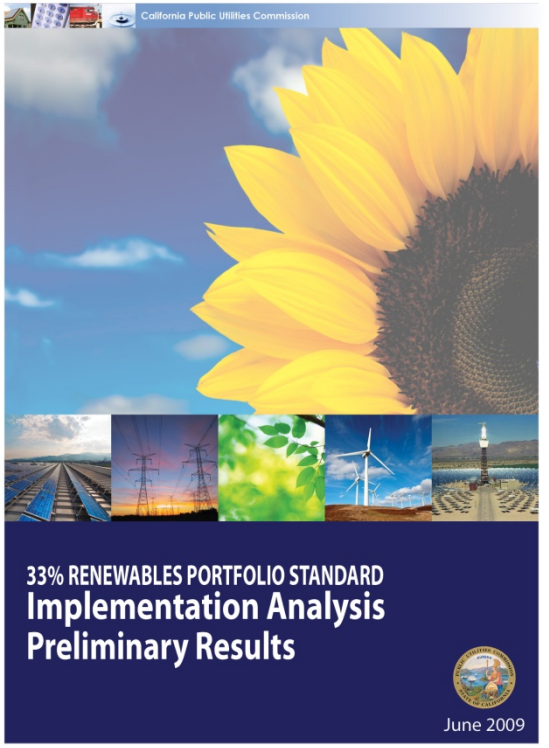
Large IOU New Online RPS Capacity



Source: California Public Utilities Commission, 3rd Quarter 2009

33% Implementation Analysis Report

- **CPUC's Energy Division staff initiated analysis to answer two key questions:**
  - What steps will the state need to take to reach a 33% RPS by 2020?
  - How much will it cost to meet a 33% RPS by 2020?
- **Scope of analysis included:**
  - Estimate the amount of generation and transmission needed to reach a 33% RPS
  - Calculate the projected cost of RPS procurement strategies
  - Develop timelines for generation and transmission facilities needed to reach a 33% RPS



33% Report's Key Findings

- **Resources**: A 33% RPS is projected to require nearly a tripling of renewable electricity and almost a doubling of new major transmission lines (as of June 2009)
- **Timeline**: Achieving 33% RPS by 2020 is ambitious with regard to the magnitude of the infrastructure buildout required
- **Cost**: Electricity costs will be higher in 2020 regardless of the RPS; RPS requirements do not add significantly to costs
- **Policies**: Achieving a 33% RPS by 2020 requires tradeoffs and prioritization among various policy goals and objectives

20% RPS Reference Case	33% RPS Reference Case
35 TWh of new renewable electricity in 2020, in addition to **27 TWh** in existence at the end of 2007	**75 TWh** of new renewable electricity in 2020, in addition to **27 TWh** in existence at the end of 2007
4 New Major Transmission Lines	**7** Additional Major Transmission Lines

Resource Planning Coordination

- CPUC's 2008 Long-term Procurement Plan (LTPP) proceeding advanced a **new framework to integrate RPS planning in the general procurement process**
- 33% RPS Implementation Analysis examined **trade-offs between cost, time, and risk profile** of various implementation strategies
  - More realistic assessments of projected on-line dates of planned renewable additions
  - Transmission-dependent strategies are higher risk, but lower cost than distributed energy strategies
- Dec 3, 2009 Assigned Commissioner Ruling signaled direct use of updated staff RPS planning analysis in a new 2010 LTPP proceeding

Feed-in Tariff Expansion

- ED staff exploring ways to **expand existing feed-in tariff**
  - Addresses small-to-medium-scale generation interconnected to a utility's distribution system
- **Benefits** of this market segment include:
  - Quick project development timelines
  - Avoidance of new transmission
  - Declining technology prices
  - Insurance to support riskier, large-scale renewable projects

- On August 27, 2009, **staff issued a proposal that would create a renewable auction mechanism** (RAM) to determine pricing to serve this market segment
  - The CPUC expects to issue a **proposed decision** in Q1 2010

Key Attributes of RAM Proposal

- **Standard Contract**
  - Terms and conditions are set before the auction and cannot be negotiated.
  - Simple contract is based off of existing feed-in tariff contract for small renewable generators.
- **Market-Based Pricing**
  - Seller competes for contract.
  - Bids selected on price, starting with the lowest price bid until the auction cap is reached.
  - Seller receives price that is bid, price is not negotiable.
- **Project Viability**
  - Seller must be online within 18 months.
  - Seller must deposit project development security, which will be returned once project is operating.
  - Seller must meet minimum criteria to participate in the auction.

SCE Solar PV Program (SPVP)

- **In June 2009, CPUC established SPVP (D.09‐06‐049)**
  - Five-year program to spur the development of distributed solar PV projects in SCE's service territory
  - Up to 250 MW from utility-owned generation (UOG) and 250 MW from independent power producers (IPP)
  - Primarily 1-2 MW commercial rooftop projects
  - Cost cap: $963.5M for UOG, $0.26/kWh for IPP contracts
- **In November, draft resolution issued on IPP program rules**
  - Annual competitive solicitations for 50 MWs
  - Program eligibility criteria
    - Site control, commercialized technology, development experience (at least 2 other projects), online within 18 months
  - Standard power purchase agreement
  - Annual report on bid details, cost, MWs online, project development