



# Procurement: Needs, Timing, and Products

*A Presentation for the IEPA Annual Meeting*

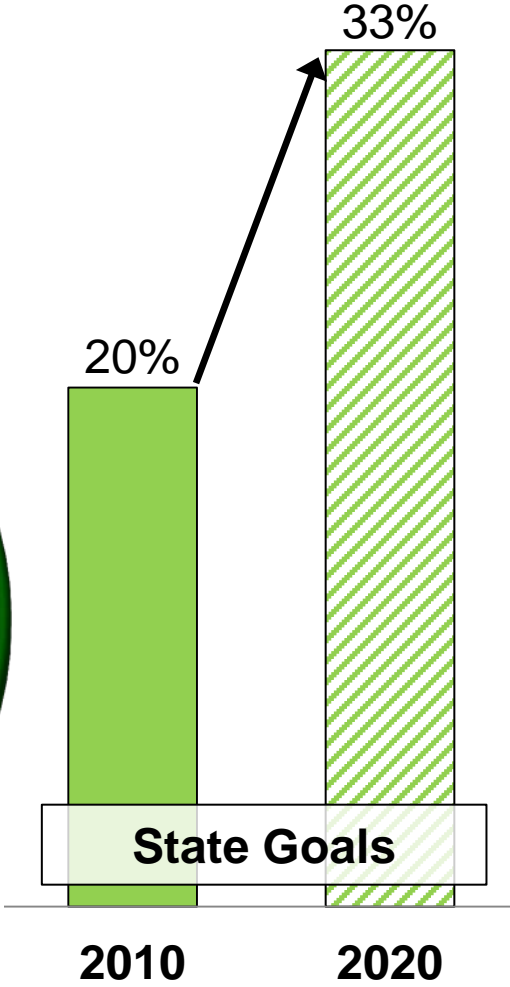
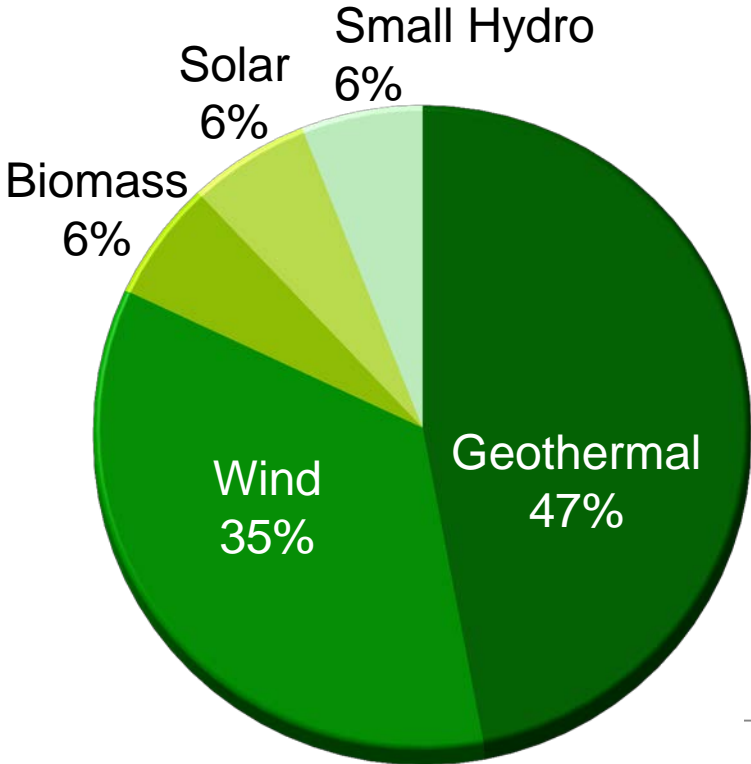
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*September 21, 2012*

# SCE Delivers More Renewable Energy Than Any Company In The U.S.

**2011 Renewables**  
 15.5 Billion kWh  
 21.1% of SCE's retail load



### SCE in the Renewable Markets

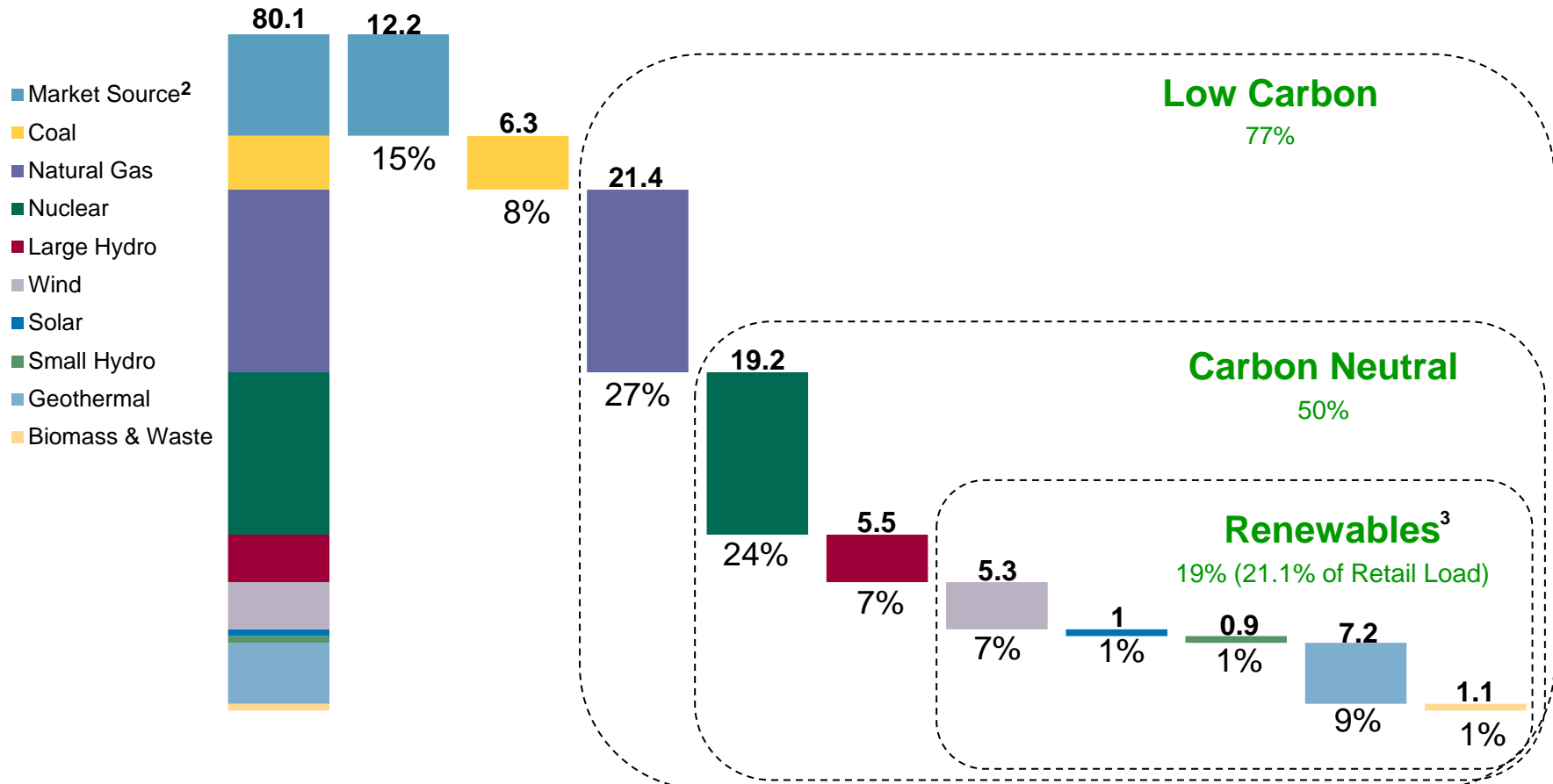
In 2010, SCE purchased roughly:\*

- **Solar:** 55% of US and 87% of CA solar generation
- **Geothermal:** 49% of US and 59% of CA geothermal generation
- **Wind:** 5% of US and 64% of CA wind generation

\* Based on 2010 Preliminary EIA Data

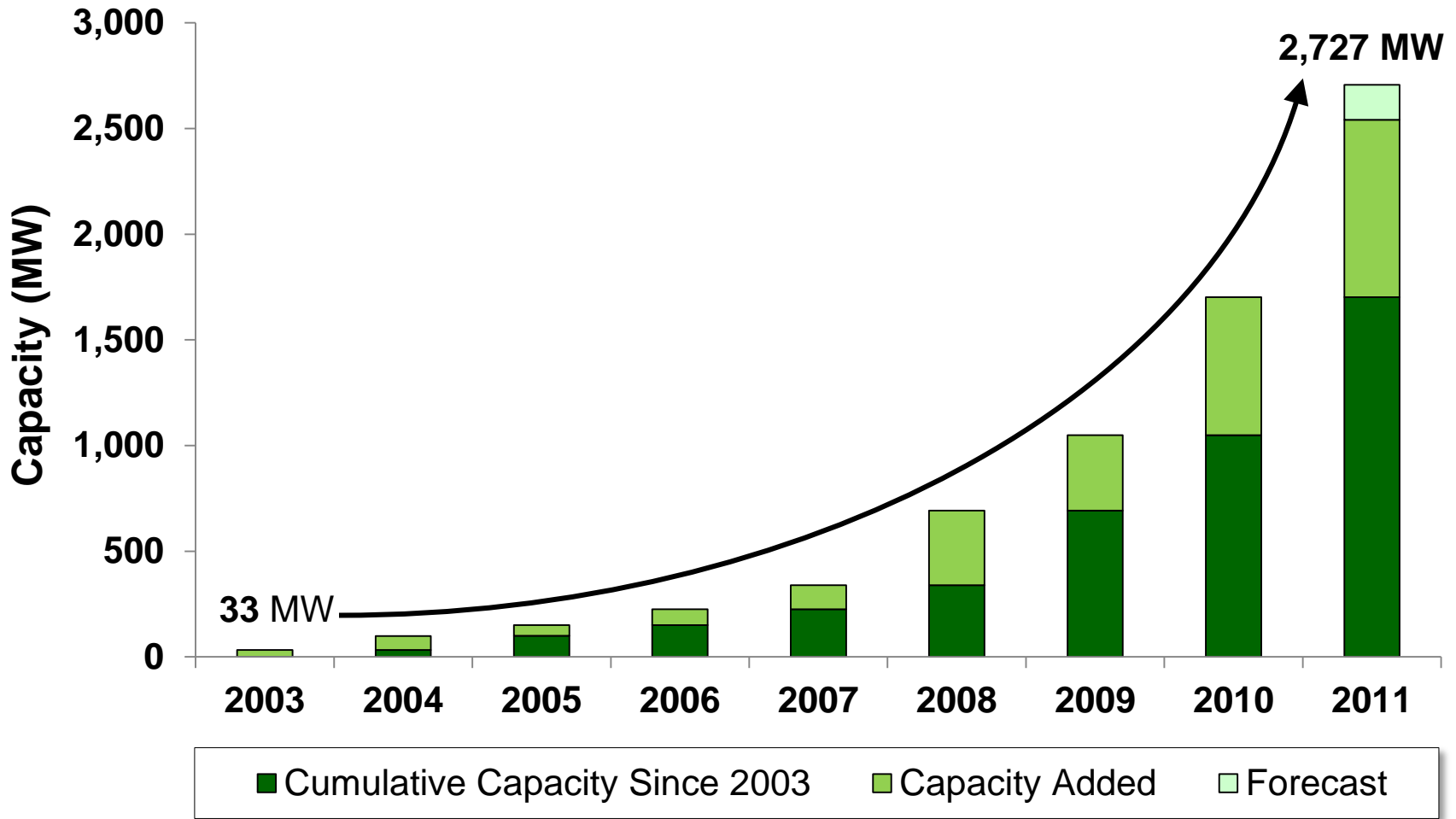
# 2011 SCE “Clean” Energy Portfolio<sup>1</sup>

(Billion kWh – Generation Level)



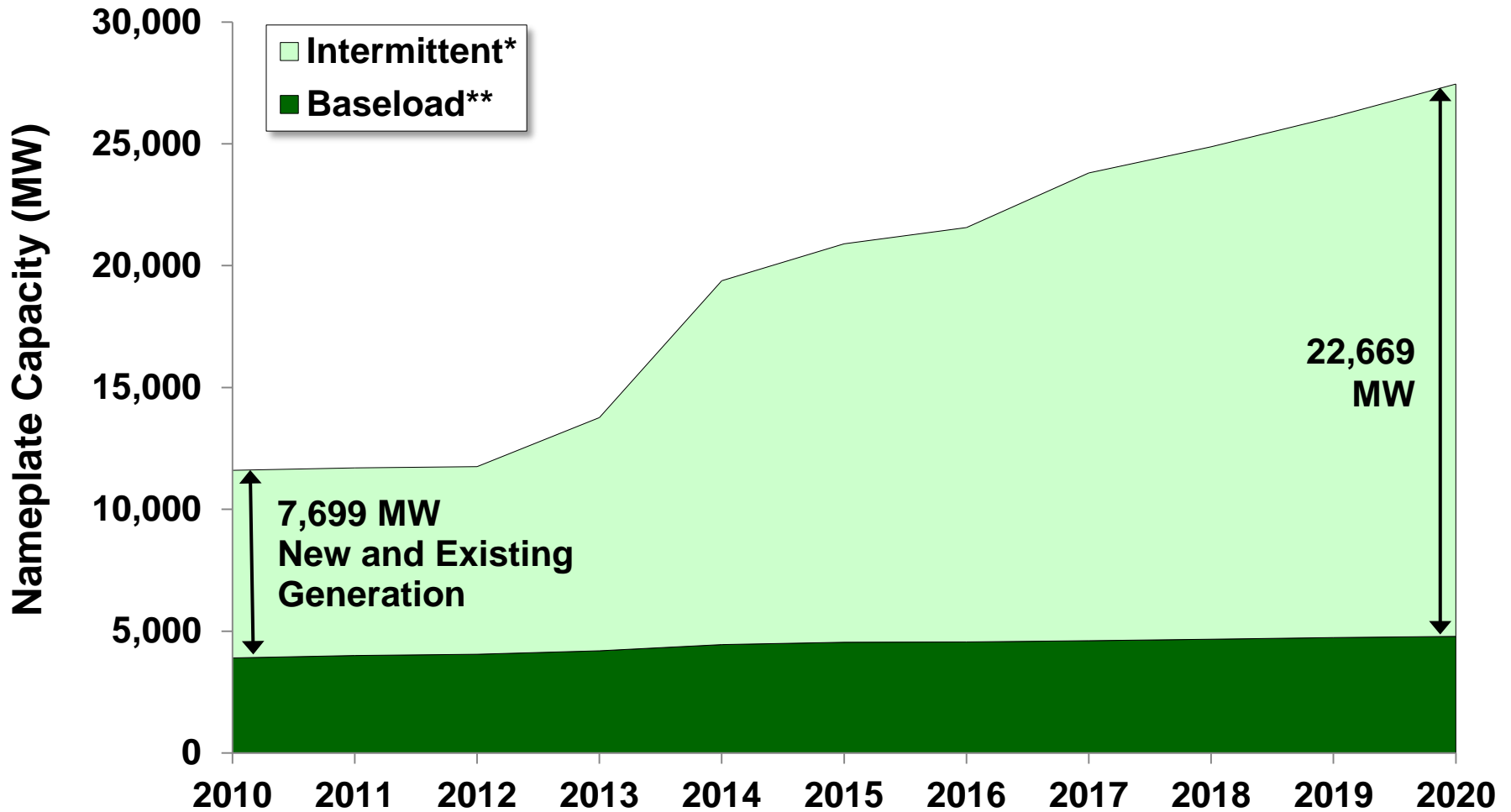
1 Based on SCE June 2012 filing for CEC Power Source Disclosure Program.  
 2 Accounts for non-technology specific energy procured from market.  
 3 SCE's actual 2011 renewable resources provided 15.5 billion kWh, or 21.1% of SCE's retail sales.

# Rapid Renewables Growth in CA Since 2003



Source: Renewables Portfolio Standard, Quarterly Report, Third Quarter 2011, California Public Utilities Commission.

# Intermittent Resources in CA Expected to Triple by 2020



\*Includes: Solar Thermal, Solar Photovoltaic, and Wind.

\*\*Includes: Geothermal, Biomass, and Small Hydro.

Source: 2010 LTPP Track I – Joint IOU Supporting Testimony



# California Electricity Market Considerations

## Challenges

- Carbon Cap-and-Trade
- Changes in Capacity Markets
  - Sutter and Forward Capacity
  - Capacity Characteristics (Flexible)
- Congestion/Curtailment
- Energy Markets Dislocation
  - Lower energy markets due to zero cost fuel
  - More volatile energy markets due to intermittency
  - Increased O&M costs from cycling gas plants
- Rate Pressure to Retail Customer
  - Net metering      – Preferred resources
  - 5-Tier residential rates
- Overgen
  - Growing must-take renewable
  - Growing baseload CHP
- Once-Through Cooling
- Emission Credits in LA Basin
- Unaccounted For Energy (UFE)

## Potential Solutions

- “New Generation” Procurement
- Revamp Resource Adequacy (RA)
  - Procurement of Flexible Resources
  - Multi-year Forward Procurement
- Centralized Capacity Markets
- Flexi-Ramp Products or Supplemental Ancillary Services
- Continue to Explore Bulk Storage
- Continue to Integrate Demand Response/Active Energy Efficiency into CAISO Markets
- Eliminate Regulatory Must-Take (RMT) in 3 years
- Consider Differentiating Grid Access by Energy Only and Full Deliverability

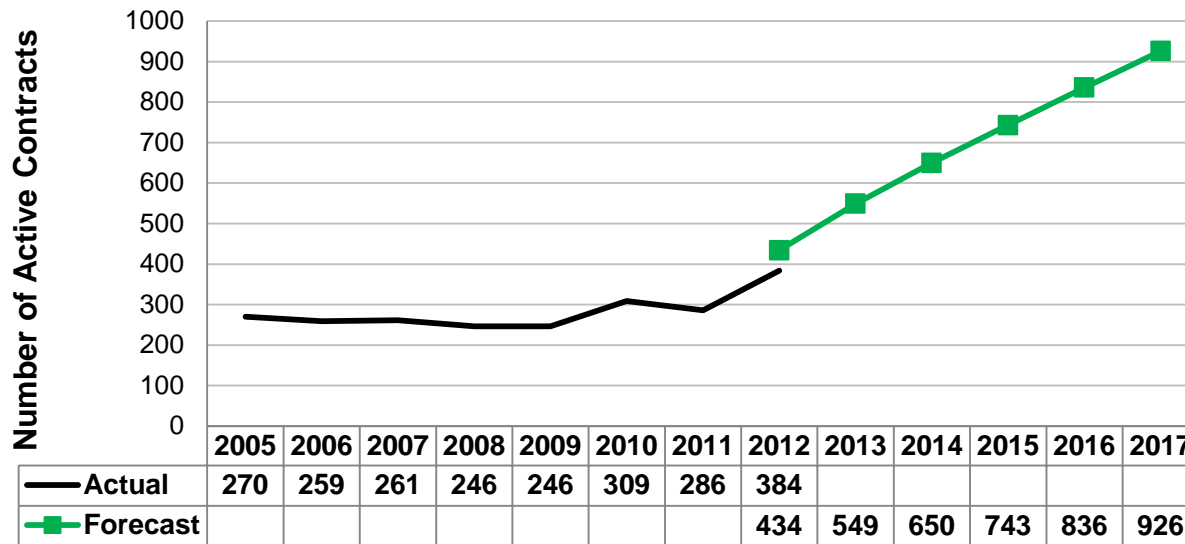
**Evolving markets will change the type of products and characteristics Load Serving Entities (LSE) seek to procure.**



## SCE's Pace of Renewable and Alternative Contracting

- ❑ In 2008 SCE had 246 active contracts
- ❑ In the years 2009-2011 SCE executed 116 renewable contracts
- ❑ In the first half of 2012 SCE executed 112 renewable and CHP contracts
- ❑ Number of contracts are anticipated to grow in volume from 286 in 2011 to over 900 by 2017 (220+% increase)

### SCE Active RAP Contracts



**SCE will focus on small-scale renewables and CHP procurement and execute more contracts in 2012/2013 than in the prior 10 years.**

# SCE Power Procurement Opportunities in 2012/2013

## Renewable: Focus on Small-Scale Distributed Generation

1. RAM 1: Closed Auction Feb. 2012
2. RAM 2: Closed Auction Aug. 2012
3. SPVP2: Closed Auction Sep. 2012 Today

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4. RAM 3: Q4 2012
5. RAM 4: Q2 2013
6. SPVP3: Q2/Q3 2013
7. CREST: On-going through Q4 2012 or until Re-MAT final implementation
8. Re-MAT: Bi-monthly Q4 2012 to Q4 2013

## Conventional: Continue Progress on CHP Goals and RA Requirements

1. CHP1 Track 1: Closed Jul. 2012
2. All-Source: Oct. 2012 Today

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3. CHP1 Track 2: Launched, estimated closing Q2 2013
4. All-Source: Oct. 2013
5. CHP2: Q3/4 2013
6. Energy Auctions (Prior “New Gen” procurement) Q4/2012 through Q4 2013

Note: Future dates are estimates. For solicitations, future dates represent launch dates.

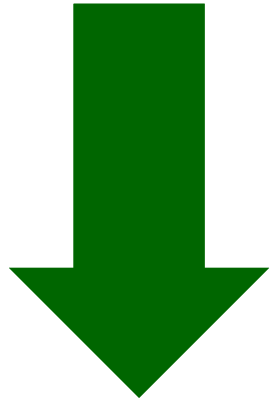




# Renewable Market Price Influences

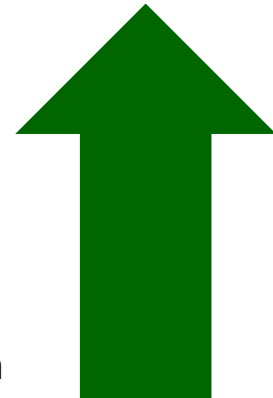
## Bearish:

- Continued economies of scale in panels, experience curve
- Continued economies of scale in inverters, EPC, and balance of plant
- Further cuts in global Feed-in Tariffs (FiTs) lead to excess inventories
- Supply/Demand balance 2012-2020
- Time and technology advancement



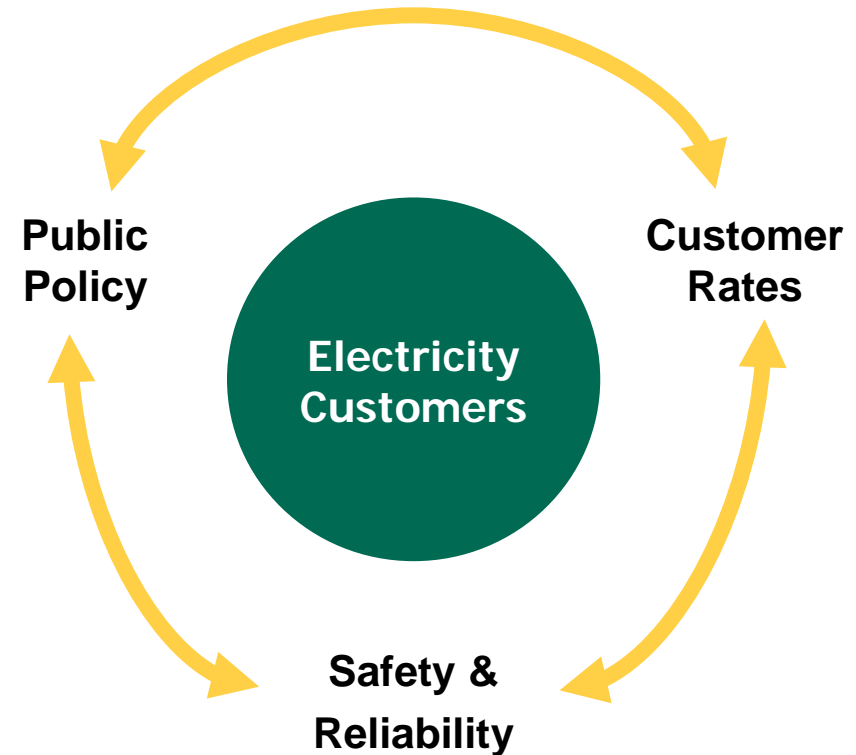
## Bullish:

- Expiring PTC/Cash Grant deadline Dec. 2012 (Wind)
- Expiring ITC/Cash Grant in Dec. 2016 (Solar)
- Import tariffs and quotas
- California property tax-break expires 2016
- Potential federal “clean energy” legislation or regulation
- Some solar businesses exiting or failing



## Balancing Key Objectives

- Realize sustainable growth opportunities utilizing prudent risk/return investment policy
  - Manage impact on customer rates
  - Focus on grid reliability and public policy investments
  - Manage within capital constraints
- Protect foundation of business position to serve customers in light of internal/external challenges
  - Ensure customer satisfaction amid challenging rate environment
  - Effectively navigate regulatory environment



**Strategy is to balance reliability, rates, and public policy goals to ensure long-term sustainable business.**



# Parting Thoughts

## Lots of Challenges and Changes

- ❑ Markets are evolving and need to further evolve
- ❑ Stakeholder involvement and healthy debate is important
- ❑ Need to find a long-term vision with steady and sustainable policy to avoid a “solar-coaster”
  - No European-Style Feed-in Tariffs
  - Any tax/subsidy policy needs to fade over time and avoid “cliffs”
  - Stop building industries on subsidies because it’s not sustainable (e.g., net metering at full retail rate, virtual retail wheeling, tax-breaks)

## SCE Continues Procurement

- ❑ In 2012 and 2013 SCE is focused on procurement of small-scale distributed generation and CHP
- ❑ SCE expects that we will execute more contracts in 2012 and 2013 than in the prior 10 years
- ❑ SCE will need both small-scale and large-scale renewable projects to meet the State’s goals in 2020 and beyond timeframe