

BUILDING A WORLD OF DIFFERENCE®



BLACK & VEATCH



Renewable Energy Transmission Initiative Phase 1A Work Group Meeting 3

Black & Veatch

Phase 1A Work Group

February 14, 2008

Agenda

- Actions Taken Last Meeting
- Schedule
- Review of Assumptions / Methodologies:
 - Incentives
 - Renewable Energy Demand
 - Base Case Definition

Actions Taken Last Meeting

- Decided on generation ownership assumption:
 - Default: IPP with long-term PPA
 - Utility ownership for specific projects
 - Model will have ability to toggle ownership type
- Reviewed form of financial assumptions
- Discussed tax incentives

Task 2. Assumptions

- Financial assumptions for use in modeling 
- Renewable energy incentives 
- Renewable energy demand 
- Transmission 
- Economic assumptions to support resource valuation 
- Renewable technology-specific assumptions 

Methodological Issues

- Resource assessment 2 weeks
- Project identification, characterization and screening 3 weeks
- CREZ identification, characterization and economic ranking 3 weeks
- Treatment of existing and short-listed contracts and transmission queue ← Today
- Technology development 2 weeks
- Resource valuation 1 week
- Supply curve creation

Assumptions – Renewable energy incentives

- Federal production tax credit
- Federal investment tax credit
- Federal accelerated depreciation
- Substantive state-level incentives

Assumptions – Renewable energy incentives

- **Tasks**

-  **Working Group: Consensus on treatment of federal tax credits (TODAY)**

- Expire end 2008?
- Expire end 2012?
- Never expire?

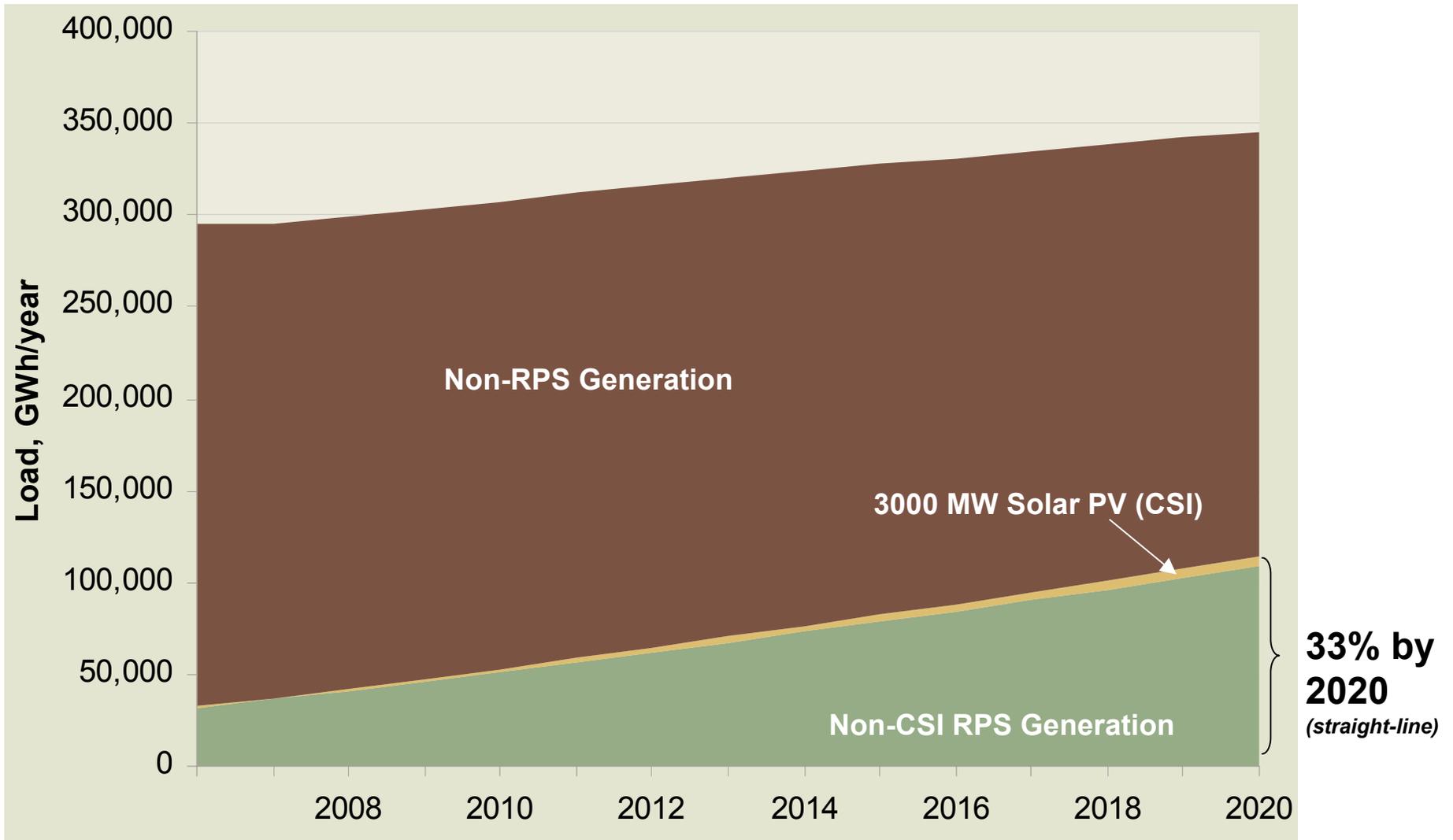
-  **Black & Veatch: Identify and document substantive state-level incentives**

Assumptions – Renewable energy demand

- California electricity load forecast
 - California-driven RPS demand (IOUs, POUs, etc.)
 - Customer sited projects
 - Flexible compliance mechanisms
 - Treatment of pre-existing and planned renewable energy generation projects
 - Existing projects
 - Signed contracts
 - Short-listed projects
 - Announced projects
 - Transmission queue
- Discussed Later**

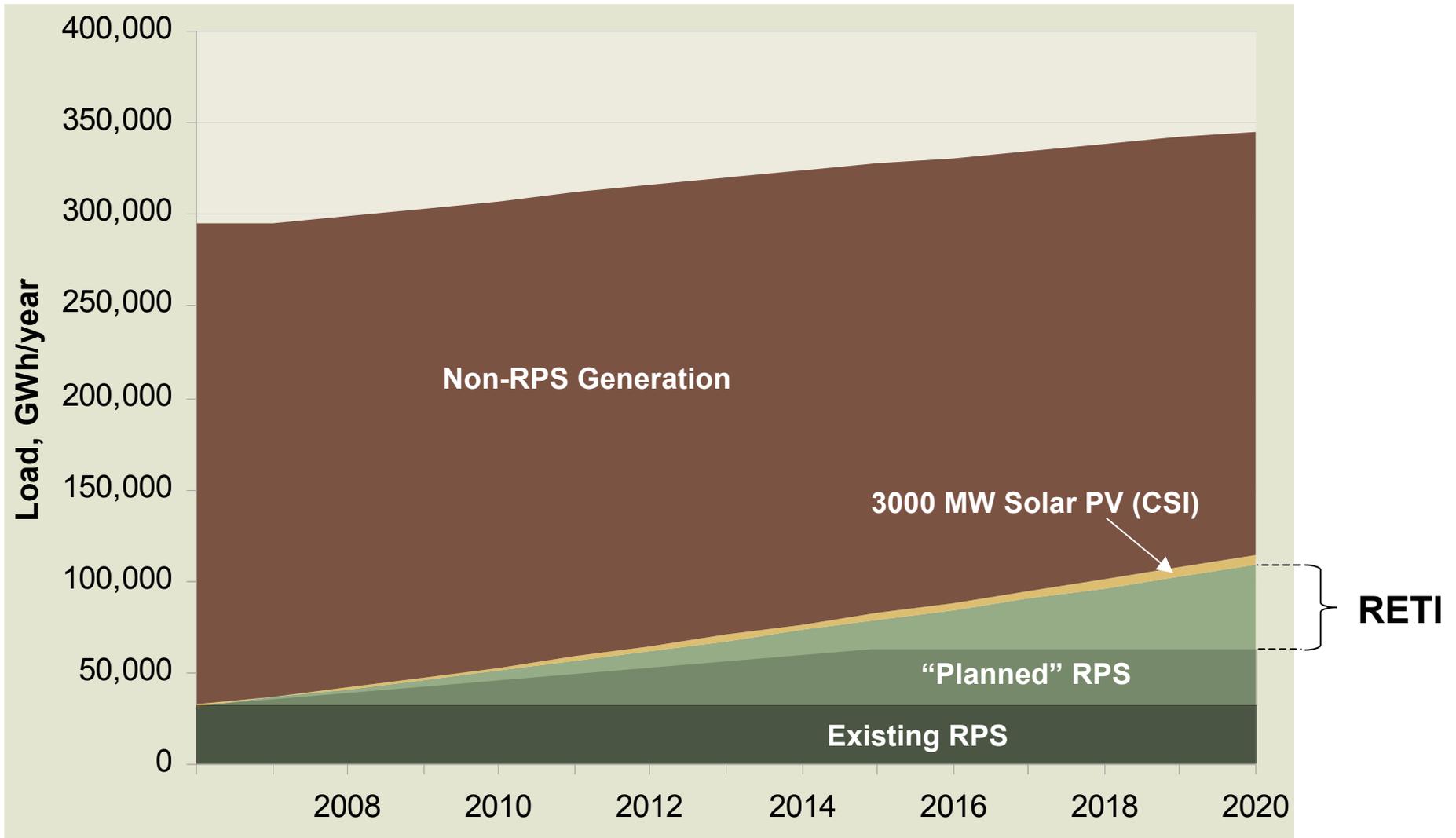
Total California Load (Nov. 2007 CEC Load Forecast)

CONCEPTUAL – FOR EXAMPLE ONLY



Total California Load (Nov. 2007 CEC Load Forecast)

CONCEPTUAL – FOR EXAMPLE ONLY



Assumptions – Renewable energy demand

- Electrical Load: CEC 2008-2018 Forecast
 - All California utilities
 - <http://www.energy.ca.gov/2007publications/CEC-200-2007-015/CEC-200-2007-015-SF2.PDF>
 - Black & Veatch will extrapolate for 2019 and 2020
- RPS – We propose a simplified approach
 - 20% in 2013 (includes flexible compliance)
 - 33% in 2020 (no assumed flexible compliance)
 - Applies to all California load
 - CEC Eligibility Rules
- California Solar Initiative
- “Planned” RPS Resources - *later*

Assumptions – Renewable energy demand

- Tasks

 **Working Group: Agreement on data sources and assumptions (TODAY)**

 **Black & Veatch / Working Group: Develop methodology for treatment of “Planned” RPS Resources (TODAY)**

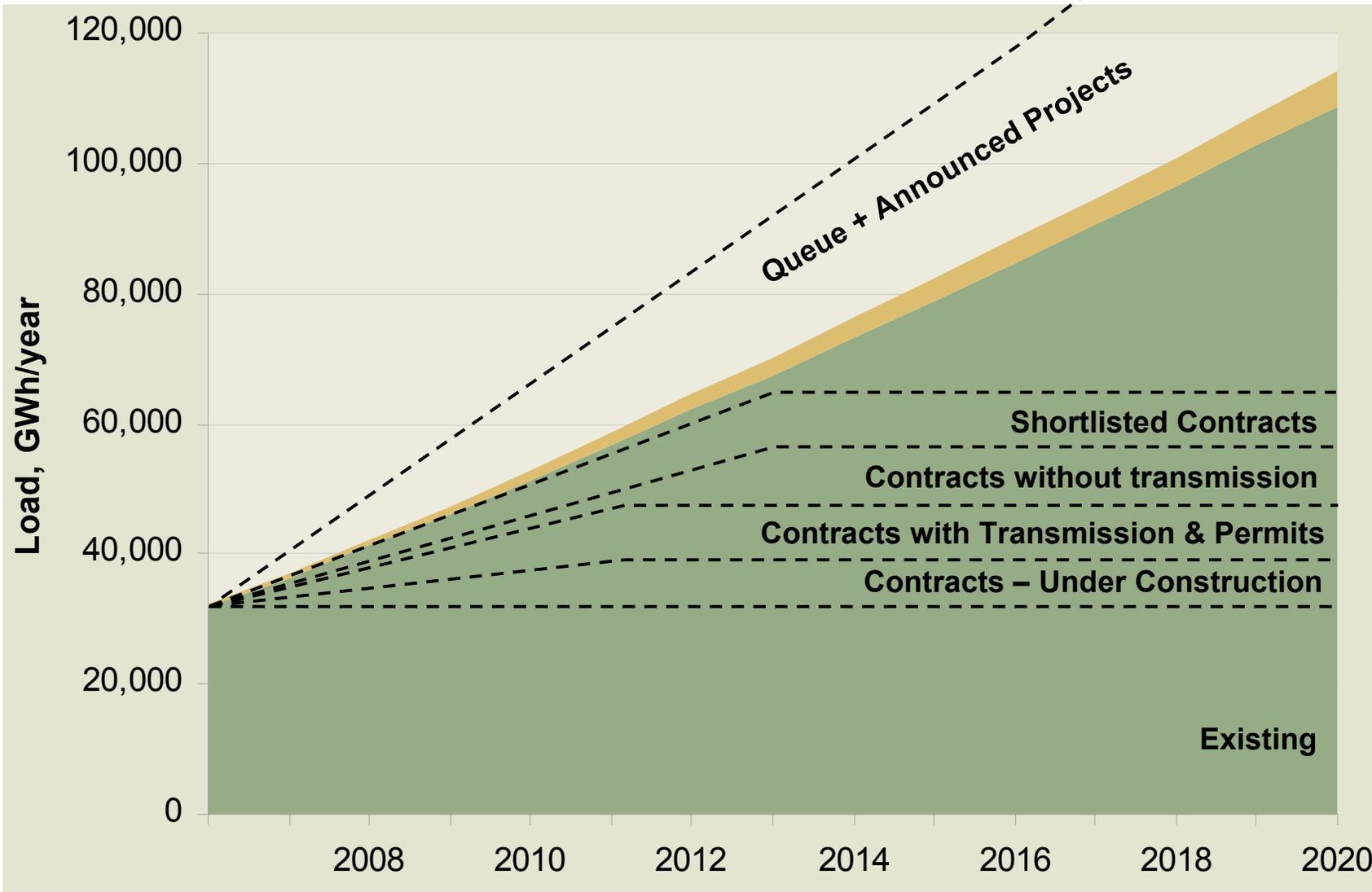
 Black & Veatch: Develop forecast for SSC meeting

 **Working Group: Review and present renewable energy demand forecast to SSC**

Treatment of existing contracts, short-listed contracts and transmission queue

- We need to establish a **RETI Base Case** – generation projects assumed to be “built”
 - Impacts RPS Demand Forecast (RETI “net short”)
 - Impacts Project Identification
 - Impacts Transmission Availability
 - Confidential Data
- Same issues apply to transmission

33% by 2020



CONCEPTUAL – FOR EXAMPLE ONLY

What is Included in the Base Case?

- Existing projects - YES
- Under-construction projects - YES
- Proposed projects - ???
 - Power purchase agreement
 - Interconnection agreement
 - Major permits
 - Other factors (site control, financing, equipment orders, EPC contract, etc.)

RETI Base Case

- **Tasks (Phase 1A)**

-  **Black & Veatch: Develop written proposal on treatment of planned generation and transmission resources**
-  **Working Group: Review and circulate for comment**
-  **Black & Veatch: Incorporate into Phase 1A report**

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Thank You!

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