Proposed Method to Calculate the Amount of Renewable Generation Required to Comply with Policy Goals

Staff Workshop
March 8, 2011, 10:00 a.m.

WebEx Participation:

- https://energy.webex.com
- Meeting Number: 922 586 170
- Passcode: CEC@030811
- Call-In Number: 1-866-469-3239
- Telephone Only: 1-866-229-3239
Proposed Method to Calculate the Amount of Renewable Generation Required to Comply with Policy Goals

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California Energy Commission
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Workshop Purpose

- Public review of the methods, variables and data sources for calculating the renewable net short
- Seeking comments and suggestions on the staff analysis
- Goal is to develop a standard method and coordinated approach for applied assumptions
- Promote consistency and analytical links between different electricity system infrastructure studies
- Analytical effort in support of 2011 IEPR
Definition of Renewable Net Short

• The incremental amount of new renewable energy needed to meet policy goals
• Focus on statewide requirements to meet a 33 percent goal for 2020
• Apply the Renewable Portfolio Standard metric
  – Amount of renewable generation as a percent of electricity retail sales
  – Not include electricity for water pumping and self-generation
Comparison of Different Studies

• Different renewable integration and infrastructure need studies use renewable net short estimates
• Studies used different accounting assumptions
• Observed differences in assumed policy goals and programs that will affect retail electricity sales
• Some differences due to vintage of studies
• Recognize that there are legitimate reasons for studies to differ
Comparison of 33% Renewable Net Short Estimates

- CEC IEPR 09 Impact of AB32
- ARB 33% RES Low Load
- ARB 33% RES High Load
- CAISO/CPUC 33% Integration Study
- RETI CTPG
- WECC TEPPC Reference Case
- WECC TEPPC State Adjusted
- CPUC 2010 LTPP

20.6 TWh
Reason for Staff Analysis

• Difficulty in sorting different study assumptions
• Links to ongoing Commission electricity studies
  – Electricity demand analysis
  – Load reduction programs
  – Electricity system dispatch scenarios
• Improve ability to understand context for studies and transfer findings from one research area to another
• Consideration of key uncertainties associated with variables used for renewable net short calculation
Evaluating Implications of Key Uncertainties Affecting Renewable Net Short Estimates

25.1 TWh
Total Renewable Generation for 33% Target

TWh

- CEC IEPR 09 Impact of AB32
- ARB 33% RES - Low Load
- ARB 33% RES - High Load
- CAISO/CPUC 33% Integration Study
- RETLCTPG
- WECC TEPCC Reference Case
- WECC TEPCC State Adjusted
- CPUC 2010 LTIP
- CEC Staff Illustrative Example RNS Estimate
- CEC Staff Low RNS Estimate
- CEC Staff High RNS Estimate
Staff Overview and Discussion

• Proposed equation for renewable net short calculation
• Key variables and uncertainties that affect the renewable net short
• Resulting range of renewable net short estimates
• What should be considered to address associated uncertainties and narrow the range of net short estimates for electricity system infrastructure studies?
Questions to Consider

1. Given a range of incremental uncommitted energy efficiency estimates, how should the Commission choose among the high, mid, and low values?

2. Should the renewable net short estimate include small utilities (Less than 200 GWh) and non-RPS deliveries (CDWR, WAPA, MWD)?

3. How should the Commission select from a range of incremental CHP values given the slow historical development juxtaposed with the recent CHP settlement at the CPUC?

4. How should the Governor’s DG goals be reflected in a renewable net short estimate?

5. How should the Commission choose among existing renewables methodologies given the variation in renewable generation inherent in using actual generation?
Questions to Consider

6. To what degree should renewable generation that is in some stage of construction be included in the renewable net short estimate?

7. What is the best way to handle short term and out of state renewables contracts that are likely to be redirected to other state’s renewable goals?

8. What developments are expected in the near future that may minimize the uncertainties associated with key renewable net short variables?

9. What types of proceedings or studies utilize a renewable net short estimate, and how should the Commission integrate these end uses into its choices of renewable net short methods?

10. Should the method and assumptions for a renewable net short estimate be allowed to vary depending on the type of study?
Next Steps

• Staff will consider stakeholder comments to modify renewable net short calculations
• Updated electricity demand forecast for 2011 IEPR under way
• Further evaluation of load reduction programs
• Coordination with Energy Agencies
• Present renewable net short findings to Commissioners for consideration in 2011 IEPR
Written Comments on Staff Paper

- Please submit no later than 5 p.m. on March 18, 2011
- Email comments to [docket@energy.state.ca.us]
- One paper copy must also be sent to the Energy Commission’s Docket Unit:

  California Energy Commission
  Dockets Office, MS-4
  Re: Docket No. 11-IEP-1D
  1516 Ninth Street
  Sacramento, CA 95814-5512