



# CTPG Phase 3 Study Plan Stakeholder Input Meeting

3/24/10

---

---

# INTRODUCTION/AGENDA – MO BESHIR

# Agenda

---

## Part 1

Meeting Introduction	2:00 – 2:05	Mo Beshir
CTPG Objectives and Schedule	2:05 – 2:10	Kevin O’Beirne/Heather Sanders
Renewable Portfolios	2:10 – 2:25	Udi Helman/Dave Larsen
2020 Demand Forecast/Net Short	2:25 – 2:35	Jon Eric Thalman
System Stress Cases	2:35 – 2:45	Jon Eric Thalman
Generation Re-Dispatch	2:45 – 2:50	Garry Chinn
Future RETI Portfolio Scenarios	2:50 – 2:55	Mike Deis

## Part 2

Phase 3 Study Plan Stakeholder Input	2:55 – 3:55	Mike Deis
Meeting Wrap-up	3:55 – 4:00	Mo Beshir

---

# **CTPG OBJECTIVES AND SCHEDULE – KEVIN O’BEIRNE**

# CTPG Objectives

---

- CTPG is committed to developing a conceptual California state-wide transmission plan to meet the state's 33% renewable goal by 2020
- CTPG is developing the proposed plan in three phases
- Phase 1 of the proposed transmission plan is complete, Phase 2 studies are underway, and Phase 3 begins with this meeting
- Maximize efficient study process execution through overlapping project phases

# CTPG Objectives

---

- CTPG is committed to obtaining the benefit of stakeholder involvement in each Phase.
- Phase 3 Stakeholder Input begins today with the discussion of the proposed study plan
  - Incorporate robust stakeholder process to provide input prior to study execution
  - Need to balance desire for progress against adequacy of stakeholder involvement and technical completeness
  - Similar to Phases 1 and 2, this is the first of several opportunities for stakeholder input

# Phase 2 Schedule Overview

---

- March 19 Final Phase 2 Study Plan Posted
- April 9 Draft Phase 2 Study Report Posted
- **April 20 Stakeholder Meeting - Sacramento**
- April 27 Study Report Comments Due
- **May 4 Final Phase 2 Study Report Posted**

# Phase 3 Schedule Overview

---

- March 25 Stakeholder Input Session Conference Call
- Thursdays RETI Transmission Working Group Meetings
- April 13 Draft Phase 3 Study Plan Posted
- **April 20 Stakeholder Meeting – Sacramento**
- April 28 Study Plan Comments Due
- **May 4 Final Phase 3 Study Plan Posted**
- June 14 Draft Phase 3 Study Report Posted
- Mid June Stakeholder Meeting
- End June Study Report Comments Due
- **July 7 Final Phase 3 Study Report Posted**



---

# RENEWABLE PORTFOLIOS – UDI HELMAN/DAVE LARSEN

# Renewable Portfolios

---

- Phase 1 Load Serving Entity/CTPG Net Short
  - CTPG Member Load Serving Entity Procurement Interests
- Phase 2 Generation Queue/RETI Net Short
  - CTPG Member Generation Interconnection Queue(s) Development Interest
- Phase 2 RETI Heavy In-State/RETI Net Short
  - Discounted Core + (70% Best Instate CREZ + 30% Best Out of State CREZ)

# Renewable Energy Portfolios

Percent of Net Short By Scenario						
Scenario	Bio	Geo	Solar	Wind	In State	Out of State
Gen Queue	1	21	44	34	92	8
RETI Heavy In-State	1	21	44	34	70	30
CTPG Phase 1	2	11	49	38	79	21
North/Northwest	<1	14	21	65	58	42
Desert Southwest	1	19	51	29	76	24
Owens Valley	1	18	55	26	92	8

# Renewable Portfolios

---

- Phase 2 North CA/Northwest/RETI Net Short
  - 1000MW installed capacity Wind/Solar from Northern CA
  - 1500 MW installed capacity Wind from Pacific Northwest
  - 1000MW installed capacity Wind/Geothermal from the Northern NV
  - 2000MW installed capacity Shaped Generation from the Pacific Northwest
- Phase 2 Southwest/RETI Net Short
  - 3500MW installed capacity Solar from Arizona/Southern NV
- Phase 2 Owens Valley/RETI Net Short
  - 5000MW installed capacity Solar PV from the Owens Valley

# Renewable Energy Portfolios

Percent of Net Short By Scenario						
Scenario	Bio	Geo	Solar	Wind	In State	Out of State
Gen Queue	1	21	44	34	92	8
RETI Heavy In-State	1	21	44	34	70	30
CTPG Phase 1	2	11	49	38	79	21
North/Northwest	<1	14	21	65	58	42
Desert Southwest	1	19	51	29	76	24
Owens Valley	1	18	55	26	92	8

---

# 2020 DEMAND AND NET SHORT – JON ERIC THALMAN

# 2020 Demand/Net Short

	CTPG Phase 1	RETI Phase 2A	CTPG Phase 2 RETI Heavy In State	CTPG Phase 2
Forecast Retail Load subject to California's renewable goals:	289,697	301,974	285,734	285,734
Renewable Portfolio Standard (RPS) Goal:	33%	33%	33%	33%
Renewable Portfolio Standard (RPS) Energy Requirement:	95,600	99,651	94,293	94,293
Existing and New Renewables expected to be on line by end of 2009:	39,324	36,807	38,174	38,174
Miscellaneous renewable resource additions:	2,670	3,134	3,355	3,335
<b>Total Existing and New Resource Additions</b>	<b>41,994</b>	<b>39,941</b>	<b>41,529</b>	<b>41,529</b>
<b>Net Short:</b>	<b>53,605</b>	<b>59,710</b>	<b>52,764</b>	<b>52,764</b>
Identified Renewable Resource Additions:	55,535	95,536*	52,764	52,764
<b>Total Renewable Energy Production:</b>	97,530	135,477*	94,293	94,293
<b>Identified Renewable Energy as a Fraction of Retail Sales:</b>	33.7%	44.9%*	33%	33%

\*For purposes of developing a conceptual transmission plan that addresses uncertainties in the location of renewable resource development, RETI Phase 2A planned for renewable resource additions equal to approximately 1.6 times the RETI Phase 2A net short.

---

# SYSTEM STRESS CASES – JON ERIC THALMAN



# System Stress Cases

---

- Case A: 2020 Northern CA adverse weather
  - 1-in-10 Northern CA + 1-in-2 Southern CA
- Case B: 2020 Southern CA adverse weather
  - 1-in-10 Southern CA + 1-in-2 Northern CA
- Case L: 2020 Spring Weather
  - Off Peak High Wind and Morning Solar

# System Stress Cases

---

- Case C: 2020 California
  - 1-in-2 Northern and Southern CA
- Case F: 2020 California Fall Weather
  - Off Peak High Wind and Morning Solar
- Case OTC: Once Through Cooling adverse weather case

---

# GENERATION RE-DISPATCH – GARRY CHINN

# Generation Re-Dispatch

---

- Economic (Heat Rate)
  - Re-Dispatch plants with highest heat rate
  - 70% In-State and 30% Out of State
- Environmental Proxy
  - Fuel Type Re-Dispatch (Coal, Oil, and Gas)
  - 70% In-State and 30% Out of State

---

# FUTURE RETI SCENARIOS – MIKE DEIS

# Future RETI Scenarios

---

- Environmental
  - Discounted Core + Environmental Best CREZs
- Heavy Out of State
- Best CREZs

---

# STAKEHOLDER INPUT – MIKE DEIS

---

# MEETING WRAP-UP – MO BESHIR