

# Decision on the 2011/2012 ISO Transmission Plan

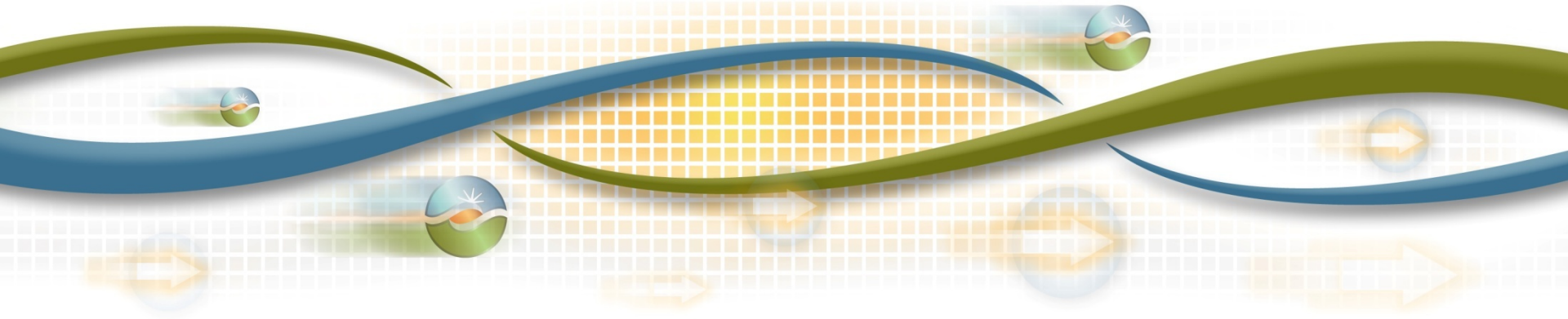
Neil Millar

Executive Director, Infrastructure Development

Board of Governors Meeting

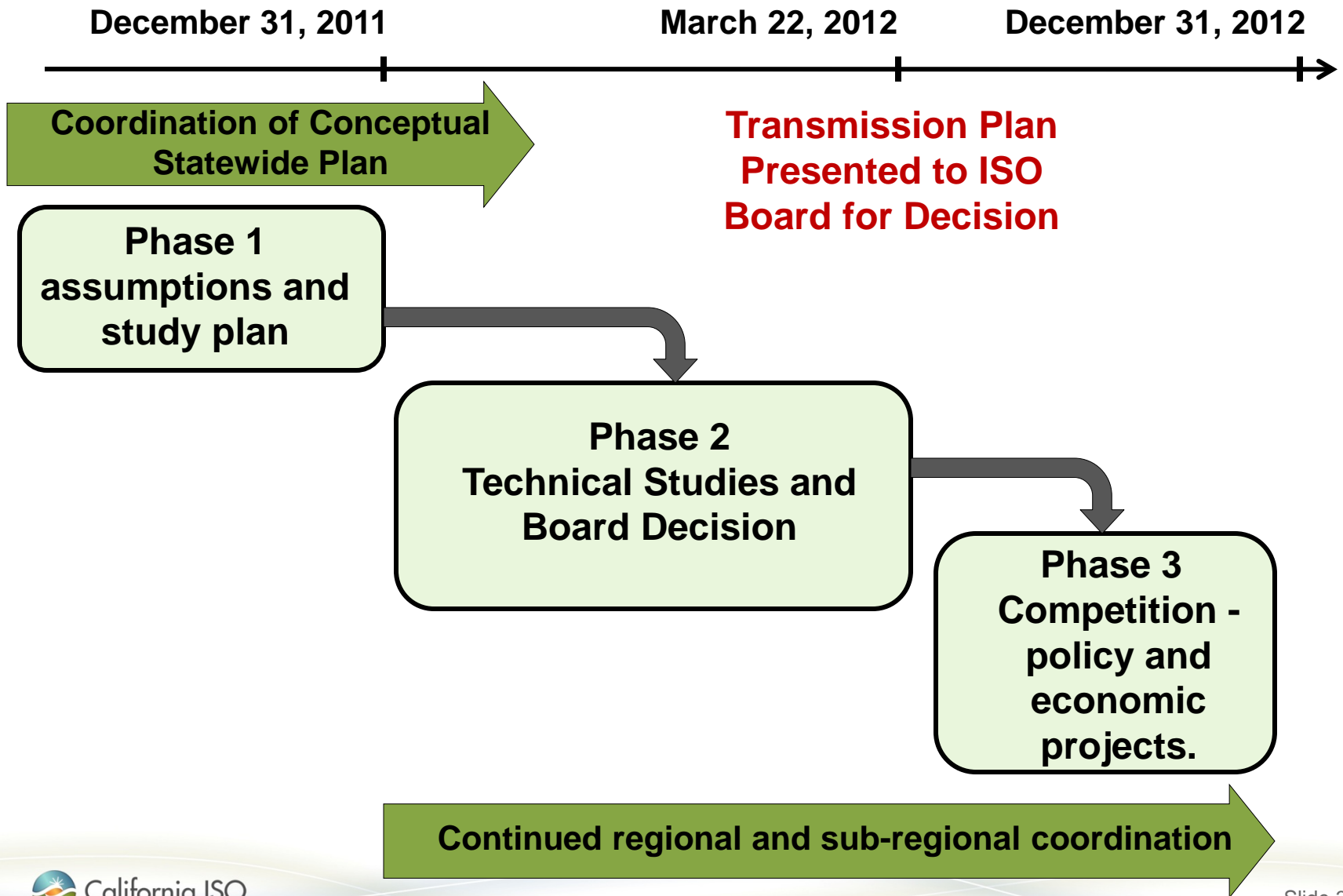
General Session

March 22-23, 2012

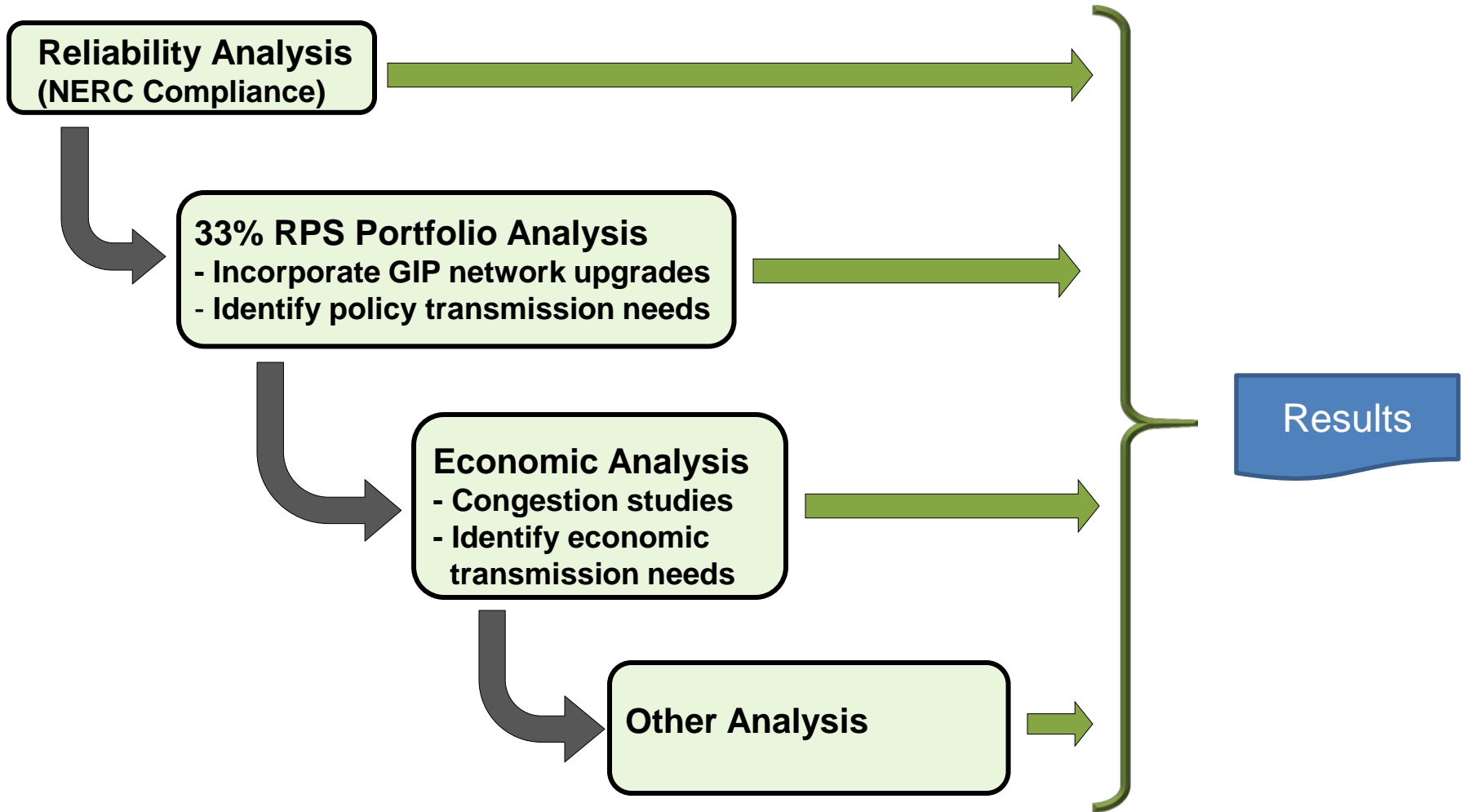


Approving the plan means approving determinations and recommendations contained in the plan including 3 new transmission reliability projects over \$50 million each.

# Development of Annual Transmission Plan



# Development of 2011/2012 Annual Transmission Plan



## Results of 2011/12 Transmission Plan

- 30 reliability projects identified as needed.

Pacific Gas & Electric *	22	\$610M
Southern California Edison Co.	3	\$25M
San Diego Gas & Electric Co.	5	\$56M
<b>Total</b>	<b>30</b>	<b>\$691M</b>

*\* Includes 3 projects over \$50M that total \$280M*

- None of the reliability projects met the tariff criteria for competitive solicitation.
- No new policy or economic driven projects were identified

# Reliability projects over \$50 million each

## **Bridgeville-Garberville**

### **115 kV Transmission Line:**

- Addition of 2<sup>nd</sup> line at 115 kV paralleling existing 60 kV line.
- Eliminates overloads during contingencies
- \$55-65 million

## **Embarcadero-Potrero:**

- 230 kV underground cable
- Maintain security of supply to downtown San Francisco
- \$130 million - \$150 million

## **Kern 115 kV Area Reinforcement:**

- 115 kV upgrades and additions
- Eliminates overloads during contingencies
- \$40 million - \$65 million



# Transmission identified can meet 33% RPS in 2020.



Transmission upgrade	Approval status		Renewable Potential		Online
	ISO	CPUC	MW	TWh/Yr	
<b>1</b> Carrizo-Midway	LGIA	Approved	900	2.1	2012
<b>2</b> Sunrise Powerlink	Approved	Approved	1,700	4.1	2012
<b>3</b> Eldorado-Ivanpah	LGIA	Approved	1,400	3.6	2013
<b>4</b> Path 42	Approved	Not yet filed	1,400	3.5	2014
<b>5</b> South Contra Costa	LGIA	Not yet filed	300	0.8	2015
<b>6</b> Borden-Gregg	LGIA	Not yet filed	800	2.0	2015
<b>7</b> Tehachapi	Approved	Approved	4,500	15.2	2015
<b>8</b> Tehachapi Wind/Solar Diversity	N/A	N/A	1,000	3.0	2015
<b>9</b> Pisgah-Lugo	LGIA	Not yet filed	1,750	4.1	2017
<b>10</b> Valley-Colorado River	Approved	Approved	4,700	8.6	2013
<b>11</b> West of Devers	LGIA	Not yet filed			2018
<b>12</b> Cool Water-Lugo	LGIA	Not yet filed	600	1.4	2018
Other-Outside of ISO Grid	N/A	N/A	3,300	8.4	
<b>Total</b>			<b>22,350</b>	<b>56.8</b>	
<b>TWh/year needed in ISO area to meet 33% goal:</b>				<b>44</b>	

# Competitive Solicitation Process Eligibility Review (Phase 3)

- Projects eligible for competitive solicitation:
  - Policy-driven or economic-driven projects
  - Reliability-driven projects providing additional policy or economic benefits.
- Excludes any elements that are upgrades to or additions on an existing facility, the construction or ownership of facilities on an existing right-of-way, or the construction or ownership of facilities within an existing substation.



# Evaluation of Reliability Projects:

- All 30 reliability projects were screened for elements that were not upgrades to existing assets or on existing rights of way – 5 possible projects were identified.
- No additional policy benefits were observed.
- Assessments of additional economic benefits:

Project	Capital Cost \$ millions	Total Cost	Congestion Benefit	Loss Saving MWh	Loss Savings \$ Millions	Cost Benefit Ratio
Borden 230 kV Voltage Support	\$11-15	16 – 22	0	2381	1.42	7%
Cressey-North Merced 115 kV Line Addition	\$7 - 10	10 - 15	0	357	0.16	1%
Embarcadero-Potrero 230 kV Transmission Project	\$130 - 150	189 - 218	0	0	0	0
Rio Oso Area 230 kV Voltage Support and Project	\$35 - 45	51 - 65	0	4332	4.12	7%
Wheeler Ridge Voltage Support	\$18 – 30	26 - 44	0	357	0.21	1%

# Stakeholder Feedback

- Support for identified reliability projects
- Support for assessments on economic and policy projects
- Load forecast assumptions
- Alternatives and level of detail
- Treatment of LGIP network upgrades
- Consistent treatment of load shedding for multiple-contingency events, e.g. Embarcadero-Potrero
- Recently finalized recommendations
- Role of independent transmission companies and projects eligible for competitive solicitation

ISO Management recommends that the Board approve the transmission plan.

- Meets the reliability needs of the ISO controlled grid
- Enables the state's 33% RPS goals
- Provides for prudent development of the transmission system