



Decision on the ISO 2016-2017 Transmission Plan

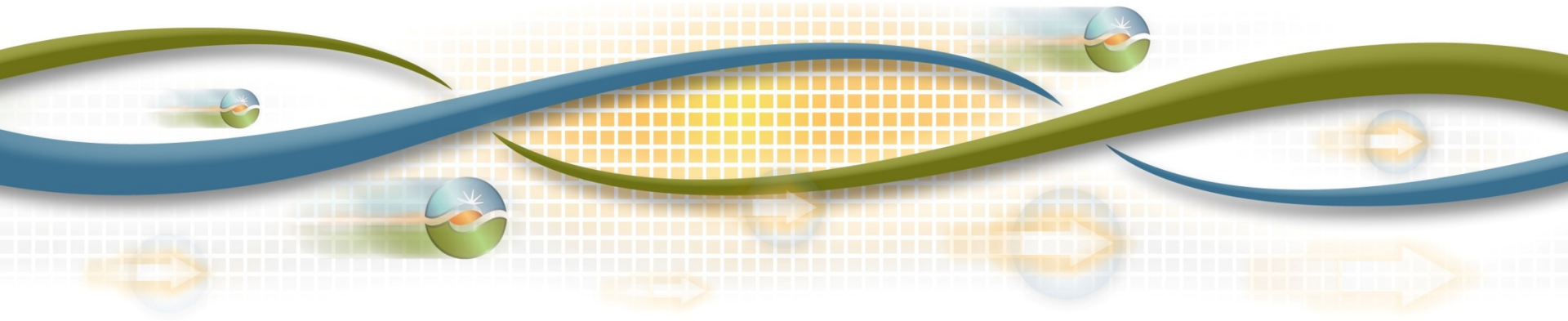
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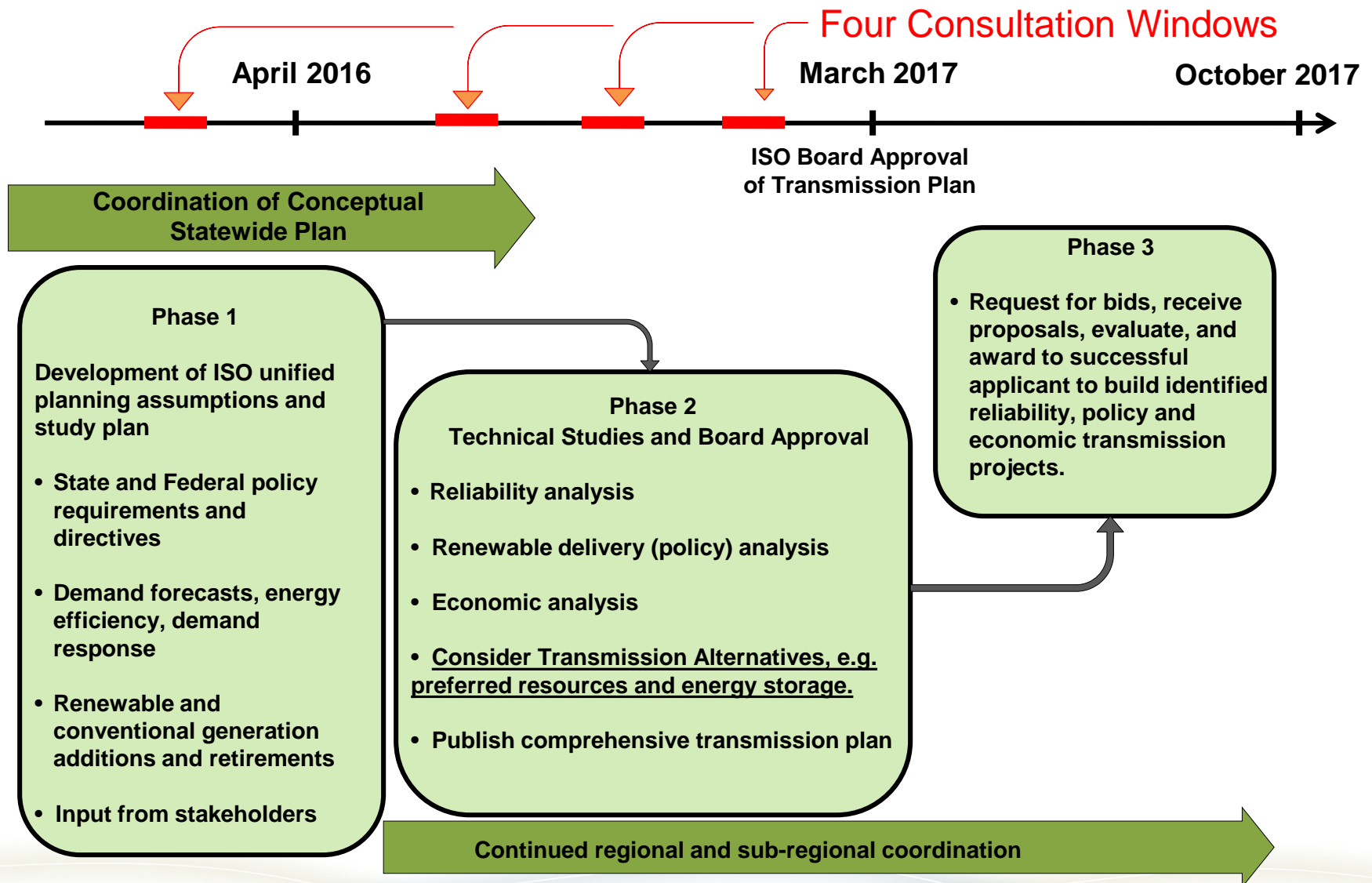


Approving the plan means approving determinations and recommendations contained in the plan.

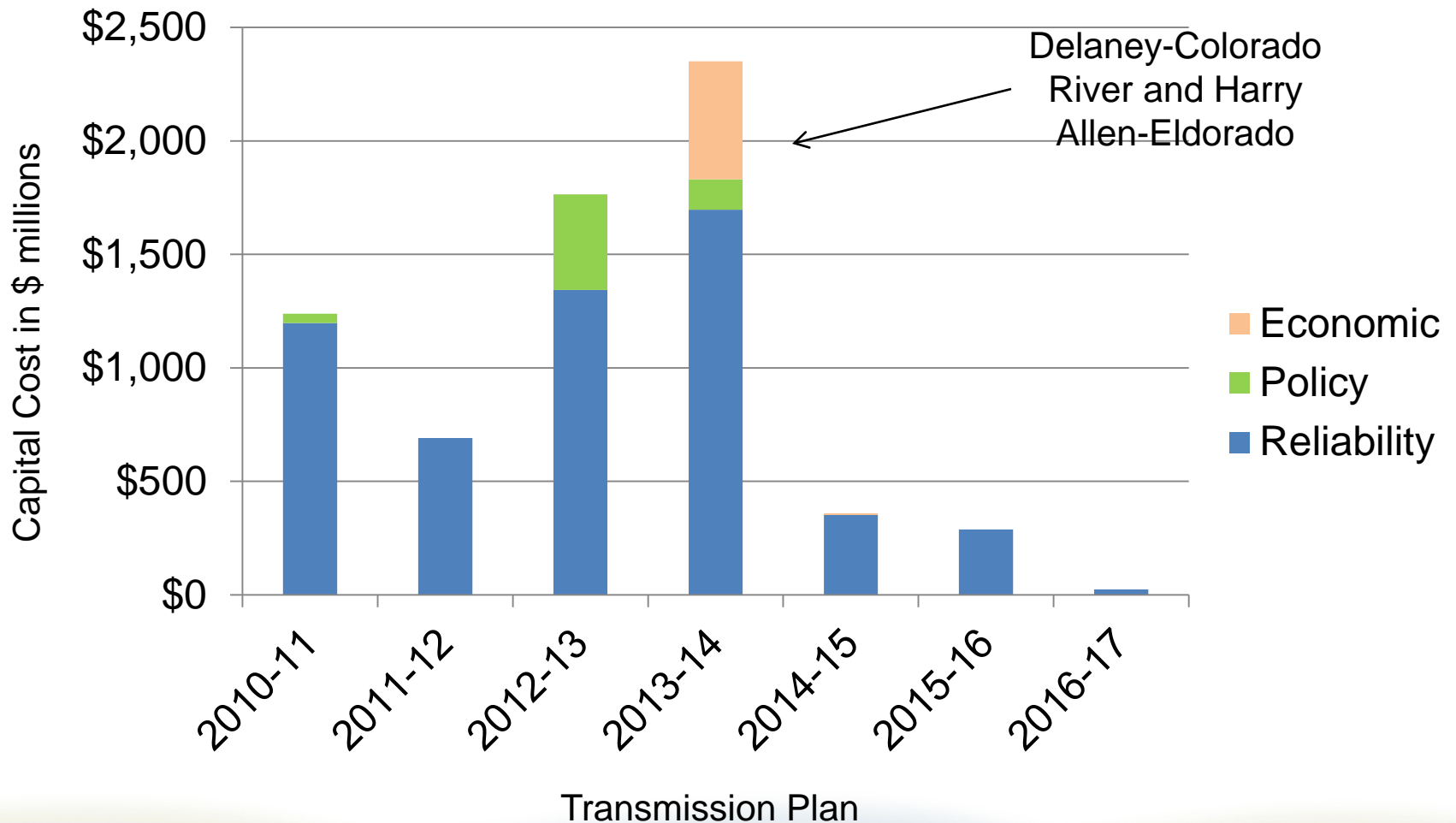
- Two transmission projects:
 - Both are new reliability projects each of which is less than \$50 million
 - no policy driven projects
 - no economically driven projects
- Canceling 13 - primarily local – previously approved projects in PG&E's service area
- Identifying 16 transmission projects requiring further evaluation in the 2017-2018 planning cycle

No regional transmission solutions found to be needed are eligible for competitive solicitation

The 2016-2017 Transmission Planning Process



Transmission approvals over the last 6 years – over 30 projects a year until 2014-2015:



The ISO's reliability analysis led to the following:

- Two reliability projects are recommended in SCE's service territory:
 - Lugo-Victorville 500 kV Upgrade - coordinated with LADWP (\$18 million – SCE portion)
 - Big Creek Rating Increase Project (\$6 million)
- In the PG&E service territory:
 - 13 previously approved projects are recommended to be cancelled
 - 15 have been identified as needing further review and scoping - 5 will proceed with concluding siting activities
- One project in the SDG&E area needs further review

13 projects are no longer required based on reliability and local capacity requirements and deliverability assessments:

- Pease-Marysville #2 60 kV Line
- Almaden 60 kV Shunt Capacitor
- Monta Vista – Los Gatos – Evergreen 60 kV Project
- Lockheed No. 1 115 kV Tap Reconductor
- Mountain View/Whisman-Monta Vista 115 kV Reconductoring
- Stone 115 kV Back-tie Reconductor
- Kearney - Kerman 70 kV Line Reconductor
- Cressey - North Merced 115 kV Line Addition
- Taft-Maricopa 70 kV Line Reconductor
- Natividad Substation Interconnection
- Soledad 115/60 kV Transformer Capacity
- Tesla-Newark 230 kV Path Upgrade
- Vaca Dixon-Lakeville 230 kV Reconductoring

Projects on hold and completing engineering activities

- Management has identified that further review of the need and scope for the following PG&E-area projects is required in the 2017-2018 planning cycle.
 - Midway-Andrew 230 kV Project
 - Spring Substation
 - Wheeler Ridge Junction Substation
 - Lockeford-Lodi Area 230 kV Development
 - Vaca-Davis Voltage Conversion Project
 -
- Management is recommending that the project sponsors do not proceed with filings for permitting and certificates of public convenience and necessity until the ISO completes the reviews.
- Completing the design and siting permitting activities (but not filing for permits) will assist in the reviews.

Projects on hold with all development suspended

- For the following PG&E area projects, all development activities are recommended to be put on hold until a review is complete.
 - Gates-Gregg 230 kV Line
 - Watsonville Voltage Conversion
 - Atlantic-Placer 115 kV Line
 - Northern Fresno 115 kV Area Reinforcement
 - South of San Mateo Capacity Increase
 - Evergreen-Mabury Conversion to 115 kV
 - New Bridgeville Garberville No. 2 115 kV Line
 - Cottonwood-Red Bluff No. 2 60 kV Line Project and Red Bluff Area 230 kV Substation Project
 - Kern PP 115 kV Area Reinforcement
 - Wheeler Ridge-Weedpatch 70 kV Line Reconductor
- In the SDG&E area, the Mission-Penasquitos project requires further review.

Oakland Area – reviewing potential alternatives for existing fossil-fueled Oakland Power Plant

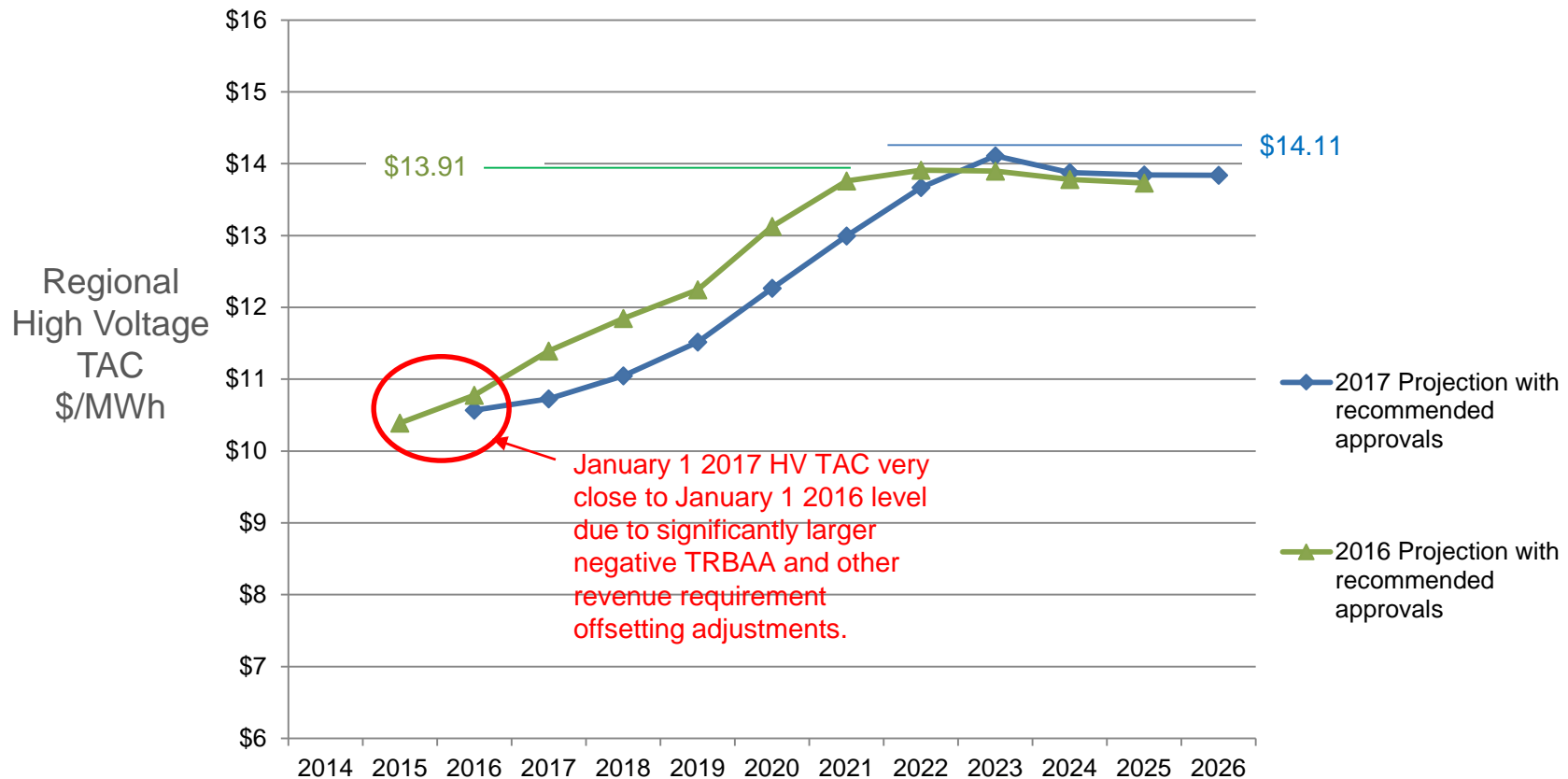
- The ISO is working with Dynegy to assess the expected life of the plant, to aid in developing alternatives to address the reliability needs currently met by the plant.
- The alternatives that the ISO considered in the 2015-2016 transmission planning process remain valid to address the reliability needs.
- The leading alternative at this time is a combination of transmission upgrades and preferred resources - a portfolio of demand response, energy efficiency, distributed generation and storage.
- The ISO will continue to work with the Dynegy and PG&E and reassess the situation in the 2017-2018 transmission planning process.



The ISO's policy-driven analysis focused on the 33% Renewables Portfolio Standard:

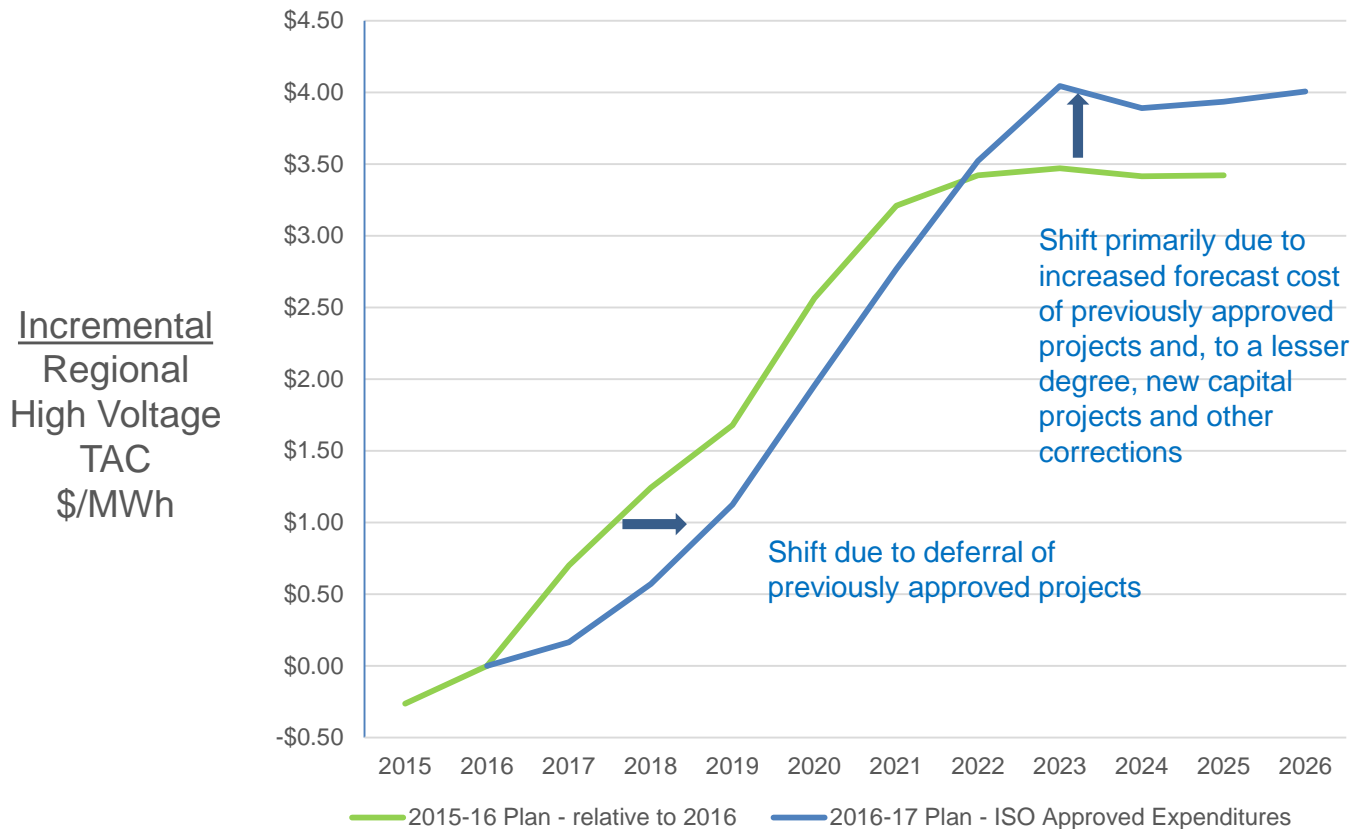
- For assessing policy-driven transmission, the CPUC and CEC provided direction on June 13, 2016 to re-use the same 33% RPS portfolios as in 2015-2016 cycle and avoid triggering new transmission for a 50% RPS at this time.
- For the policy driven analysis with 33% RPS portfolios, the ISO studied only on the Imperial, Baja and Arizona areas due to changes in transmission plans in the Imperial Irrigation District from the 2015-2016 Transmission Plan. No policy-driven requirements were identified.
- Note that the portfolios used in the ISO's informational 50% RPS special studies were provided by CPUC staff through a collaborative effort, but not as the basis for policy-driven transmission

Regional high voltage transmission access charge projection trended from January 1, 2017 values:



* Existing returns are maintained for existing PTO rate base, and 11% return on equity is assumed for new transmission capital.

Incremental impact of post-2016 capital expenditures related to all ISO-approved transmission projects



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Six special studies on emerging issues were undertaken in this cycle:

- Continuation of frequency response efforts through improved generator modeling
- Risks of early economic retirement of gas fleet
- 50% renewable generation (in-state analysis, out of state analysis and Interregional Transmission Project evaluation)
- Large scale storage benefits
- Gas/electric reliability coordination
- Slow response resources in local capacity areas

Stakeholder feedback provided a wide range of views:

- Concerns about specific projects, and the ISO's basis for moving forward
 - Projects driven by high voltage concerns
 - Previously approved projects
 - Projects not recommended for approval
- Deliverability of CPUC-provided 33% renewable generation portfolios for policy-driven transmission
- Support for continuation of special studies

Management recommends the Board approve the 2016-2017 ISO Transmission Plan.

- Continues to pursue low emissions strategies in addressing reliability needs of the ISO controlled grid
- Enables the state's 33% RPS goals and sets a foundation for higher renewable energy goals
- Provides for prudent and economic development of the transmission system