

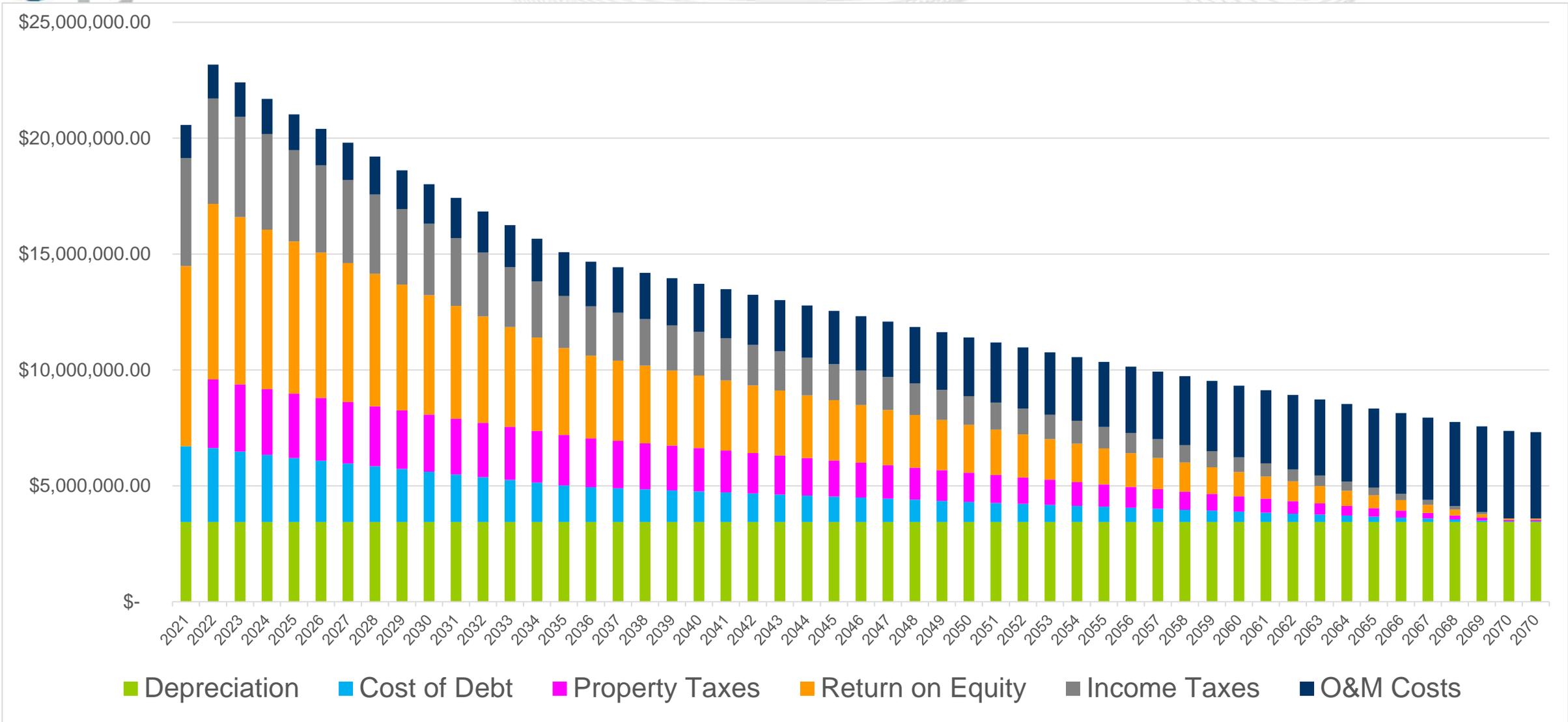


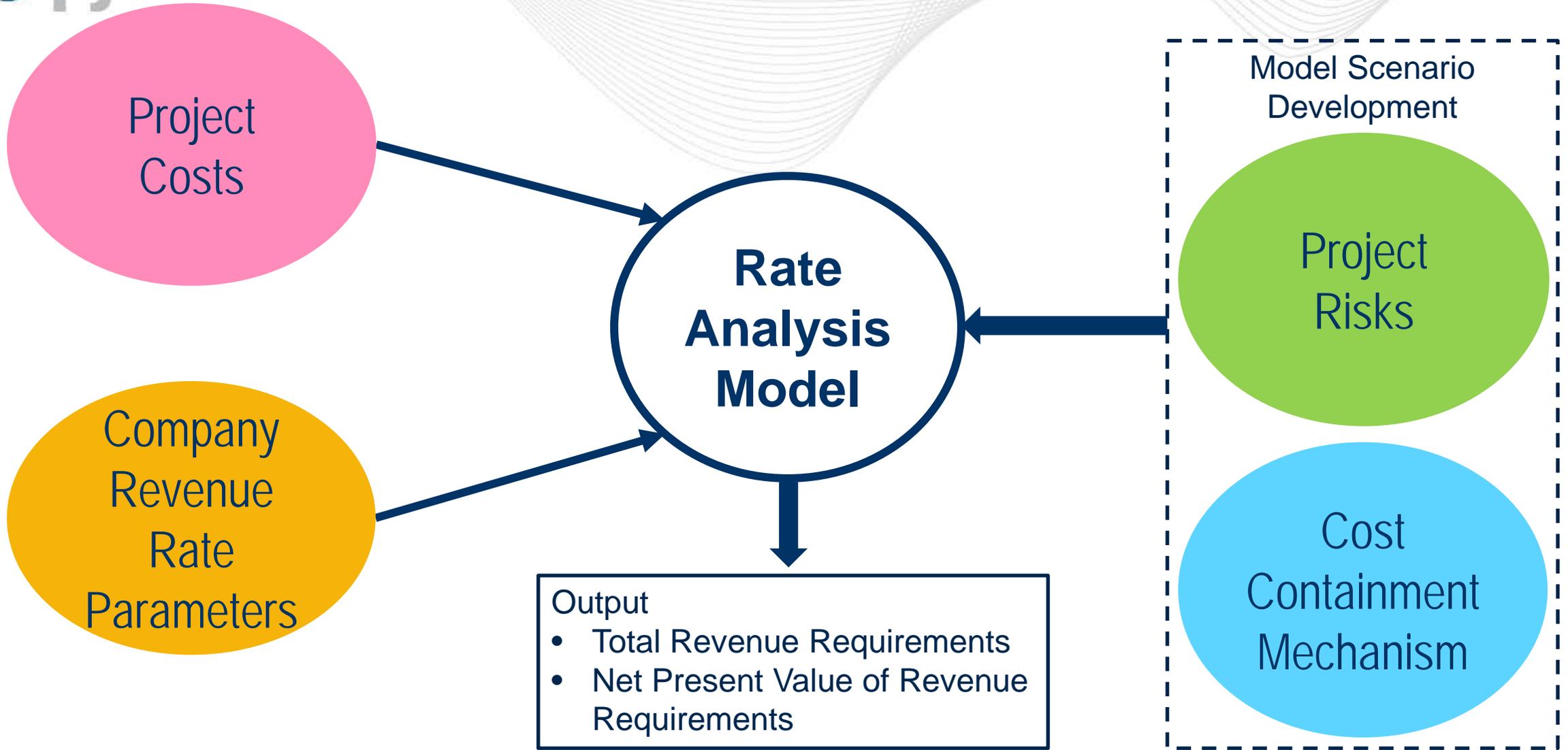
# Transmission Revenue Rate Analysis

Special PC – Consideration of Cost  
Commitment for Evaluation of  
Competitive Transmission Proposals

Jason Shoemaker  
March 16, 2018

# Revenue Requirement Components







# Transmission Revenue Rate Input Parameters

Cost Expenditure Schedule	Operations and Maintenance	Additional Cost Information
<ul style="list-style-type: none"><li>• Monthly capital expenditures for each cost element in current year dollars</li><li>• Monthly capital expenditures for each cost element in In-Service year dollars</li><li>• Yearly cash flow including escalation, taxes and financing costs</li><li>• Detailed explanation of real and inflation components of escalation rates used</li><li>• Any ongoing capital expenditures</li></ul>	<ul style="list-style-type: none"><li>• Annual operating cost estimates by FERC account # (560-567)</li><li>• Annual maintenance cost estimates by FERC account # (568-573)</li><li>• Annual administrative and general expenses by FERC account # (920-931,935)</li><li>• Inflation rate on O&amp;M costs</li></ul>	<ul style="list-style-type: none"><li>• Planned return on equity (ROE)<ul style="list-style-type: none"><li>○ Include any incentive adders the proposing entity intends seek</li></ul></li><li>• Assumed cost of debt during construction and cost of debt during operation</li><li>• Assumed inflation rate</li><li>• Assumed discount rate</li><li>• Whether AFUDC or CWIP will be employed</li><li>• Estimated monthly AFUDC for the project</li><li>• Assumed Federal, state, and property tax rates</li><li>• The annual effective property tax rate as well as assumptions underlying the tax rate estimate</li><li>• The book, federal tax, and state tax depreciation schedules</li><li>• Estimated project book life</li></ul>

- Project capital cost estimate
- Project risks
  - Proposing entity driven risks
  - Solution specific risks

# Cost Containment Examples

In Chronological Order (date of selection report issuance)

		Imperial Valley Policy Element	Gates - Gregg 230kV	Sycamore - Penasquitos 230kV	Miguel 500kV	Suncrest 230kV	Estrella Substation	Spring Substation	Wheeler Ridge Junction Substation	Delaney - Colorado River 500kV	Harry Allen - Eldorado 500kV	Walkemeyer - North Liberal 115kV	Duff - Coleman EHV 345kV
	<b># of Bidders</b>	2	5	5	1	2	4	3	4	5	3	11	11
	<b>% of Bidders proposing cost containment</b>	100%	0%	0%	N/A	100%	50%	33%	25%	80%	100%	45%	91%
<b>Categories</b>	<b>Permutations</b>												
Capital Cost	Cap - incl. AFUDC / CWIP & Contingency					▲	▲			▲			▲
	Cap - incl. Contingency, excl. AFUDC / CWIP	▲									▲		
	Cap - excl. Contingency, incl. AFUDC / CWIP	▲											
	Rate Base Cap												
	Cap - Capital Cost only												
	Cap - Portion of Capital Cost only (e.g., Materials)												
	<b>No Cost Containment</b>		▲	▲			▲	▲	▲			▲	
Rev. Req	Revenue Requirement Discount												
ROE	ROE Cap - incl. incentive adders										▲		▲
	ROE Cap - base ROE only									▲			
	WACC Cap - limited duration												
	Forgone ROE incentive adder (all incl. RTO)									▲			
	Forgone ROE incentive adder (all except RTO)						▲		▲				
<b>No Cost Containment</b>	▲	▲	▲			▲		▲			▲		
Equity %	Cap on Equity Percentage						▲		▲		▲		▲
	<b>No Cost Containment</b>	▲	▲	▲			▲	▲	▲	▲		▲	▲
O&M	O&M Cap (limited duration)					▲	▲						
	Forgone O&M recovery (limited duration)												
Project Delay	Forgo return of/on portion of capital												

**Key**

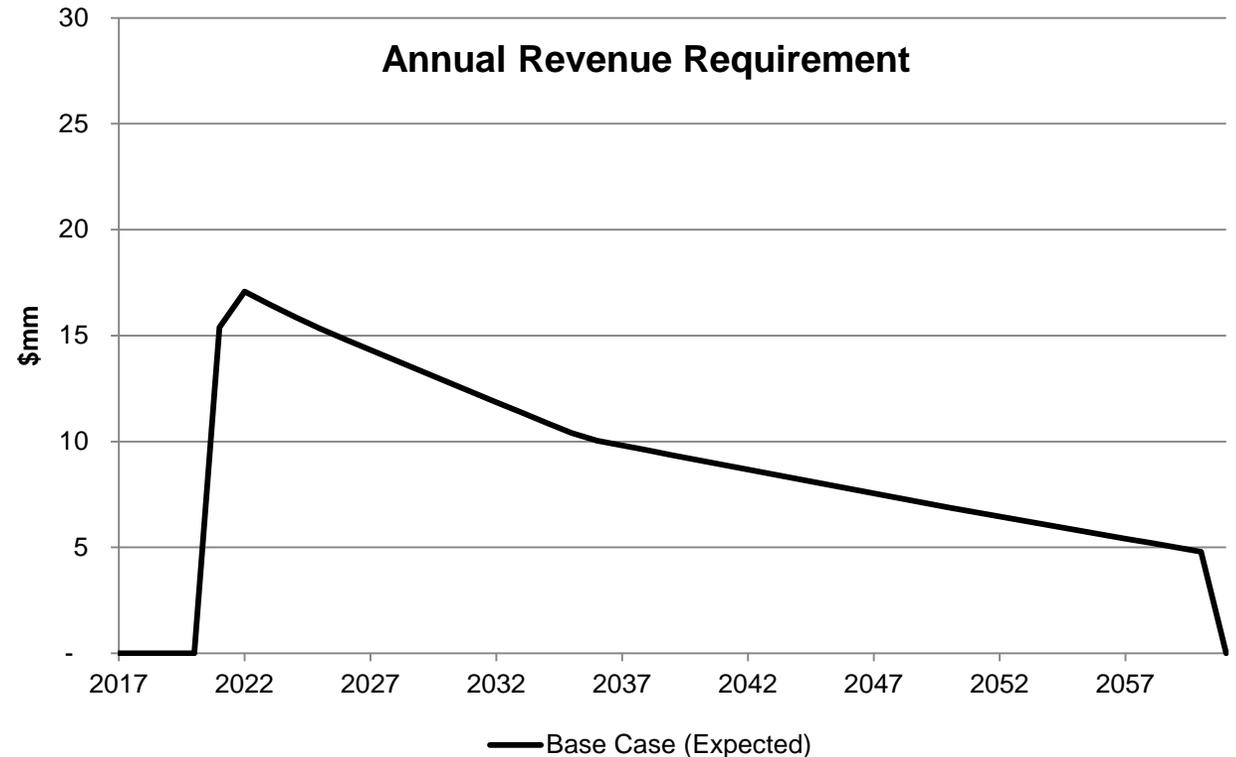
- MISO
- SPP
- CAISO
- ▲ Proposed by selected bidder
- Proposed by one or multiple bidders

- Example scenarios vary model inputs to gauge revenue rate impacts

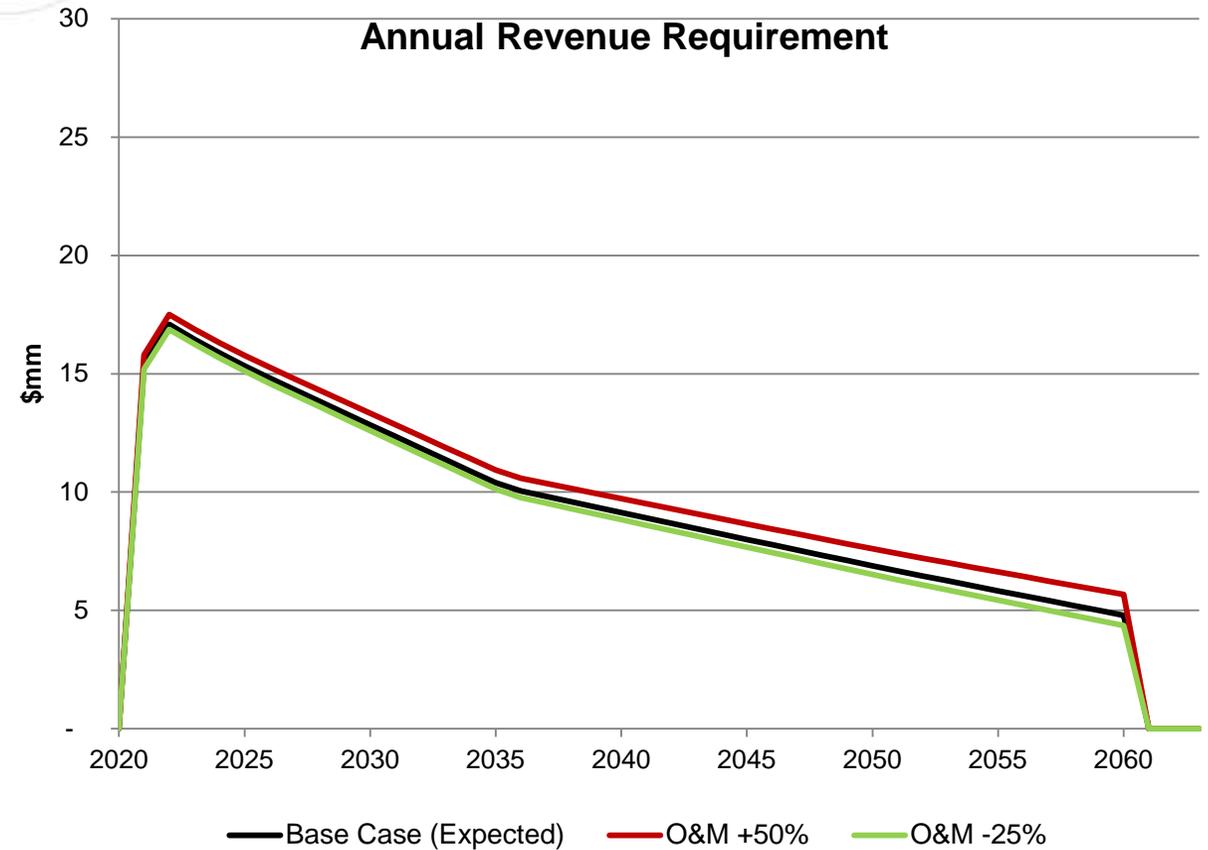
Construction Phase	Post-Construction (project is in-service)
<ul style="list-style-type: none"> <li>• Project cost overruns               <ul style="list-style-type: none"> <li>○ Capital costs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Rate filing               <ul style="list-style-type: none"> <li>○ Return on equity (ROE)</li> <li>○ Capital structure</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Project delay               <ul style="list-style-type: none"> <li>○ Construction length</li> <li>○ Capital costs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing expenses               <ul style="list-style-type: none"> <li>○ Operations and maintenance (O&amp;M)</li> <li>○ Subject to local workforce</li> </ul> </li> </ul>

New greenfield transmission project (line or substation)

Base Case Inputs	Expected
CapEx (MM, \$2016)	100
O&M (MM p.a., \$2016)	0.75
ROE (%)	10.82%
Equity % of Capital Structure	50%
Construction Period Length	48 months
NPV ATRR (MM)	120

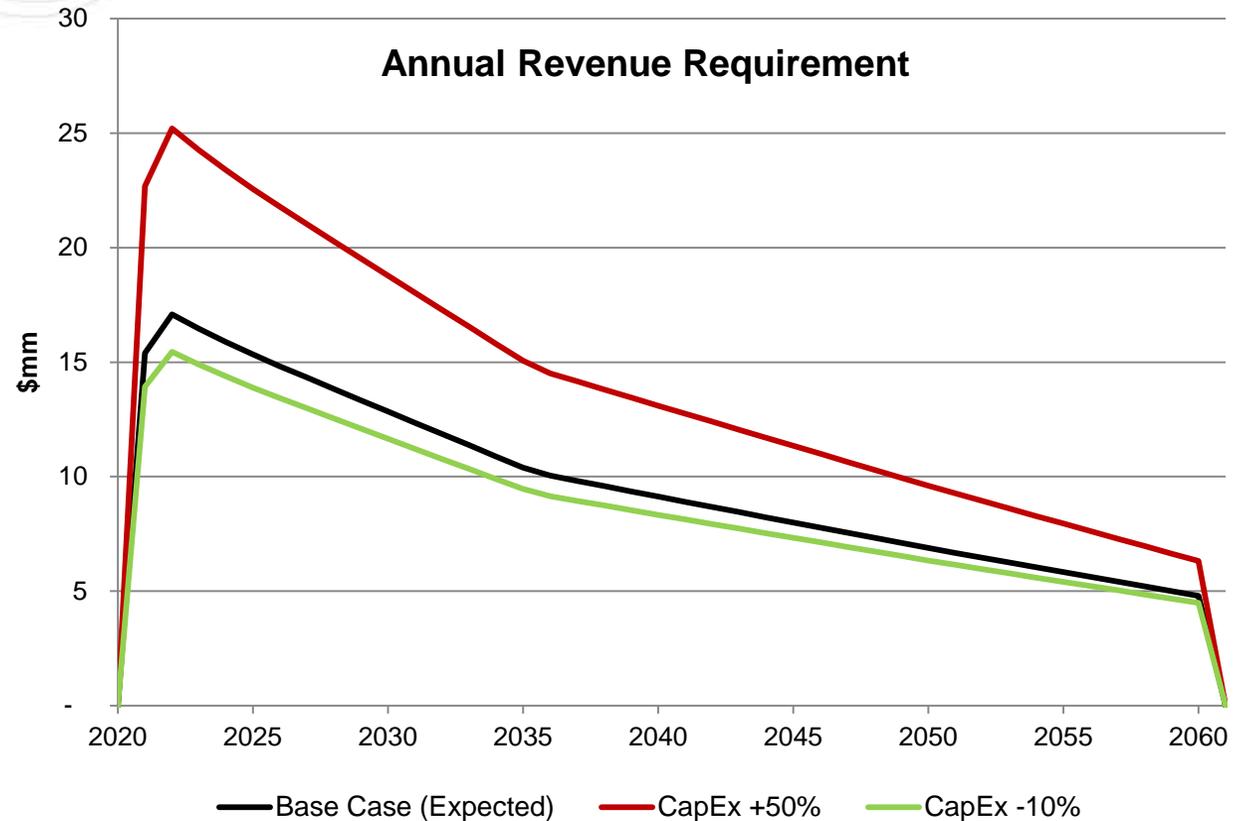


Base Case Inputs	Low Value	Expected	High Value
CapEx (MM, \$2016)	100	100	100
O&M (MM p.a., \$2016)	0.56	0.75	1.13
ROE (%)	10.82%	10.82%	10.82%
Equity % of Capital Structure	50%	50%	50%
Construction Period Length (months)	48	48	48

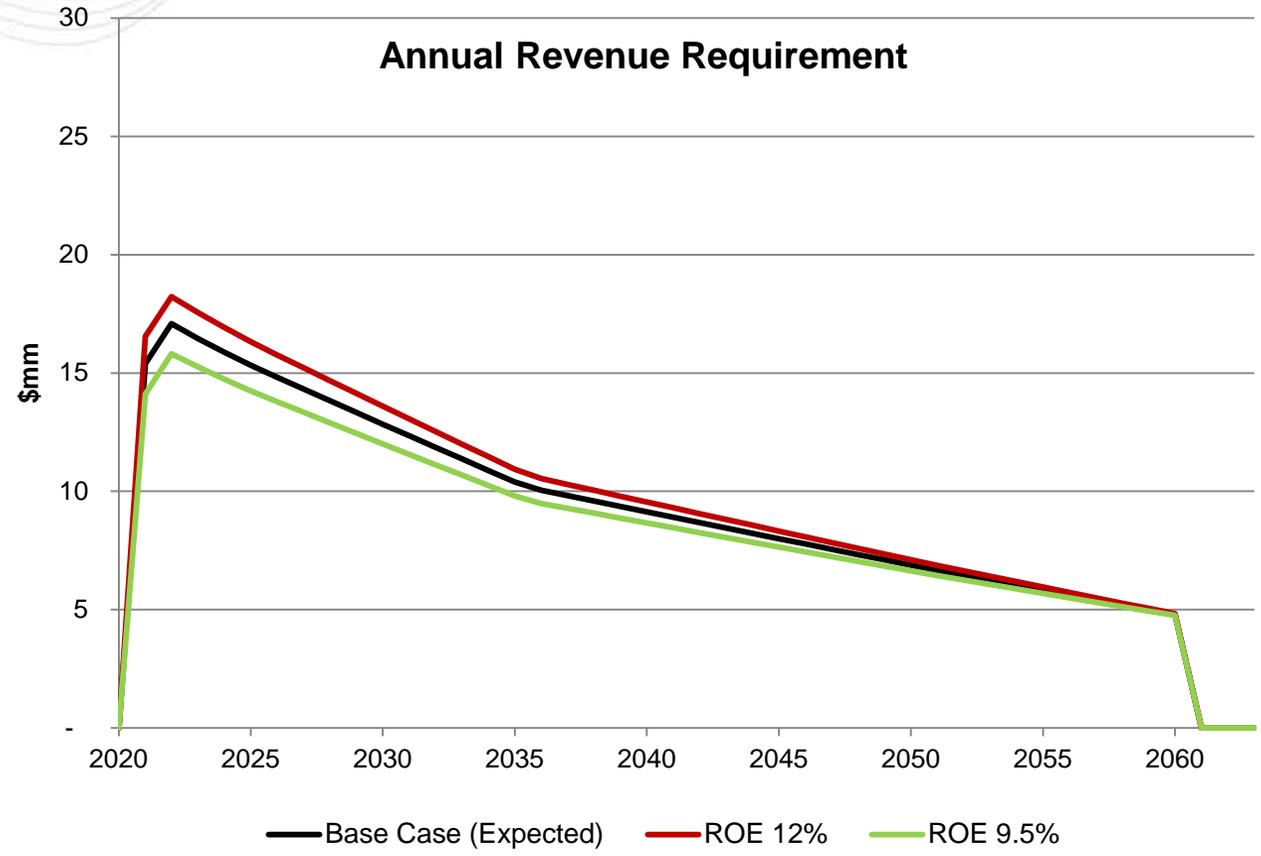


- Scenario:
  - CapEx spend varies
  - +50%, -10%

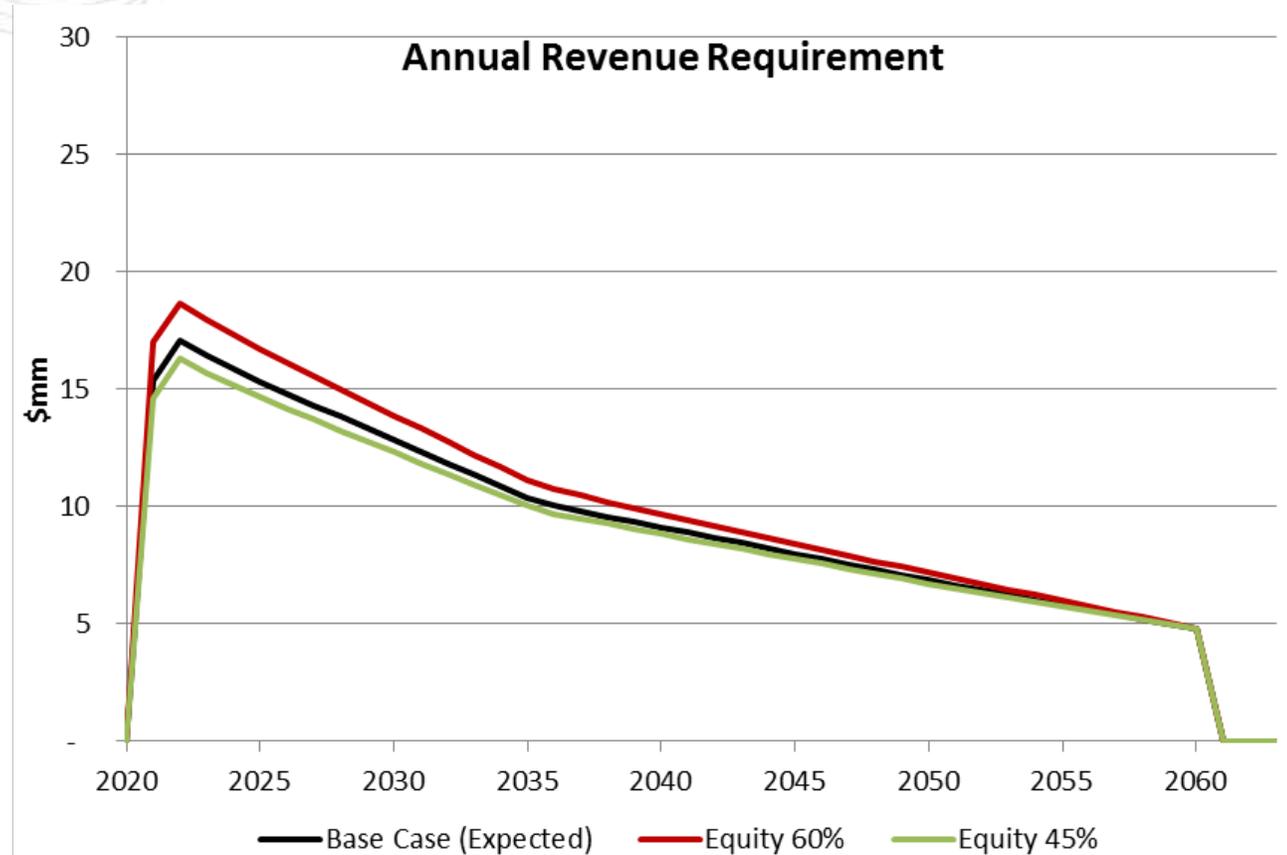
Base Case Inputs	Low Value	Expected	High Value
CapEx (MM, \$2016)	90	100	150
O&M (MM p.a., \$2016)	0.75	0.75	0.75
ROE (%)	10.82%	10.82%	10.82%
Equity % of Capital Structure	50%	50%	50%
Construction Period Length (months)	48	48	48



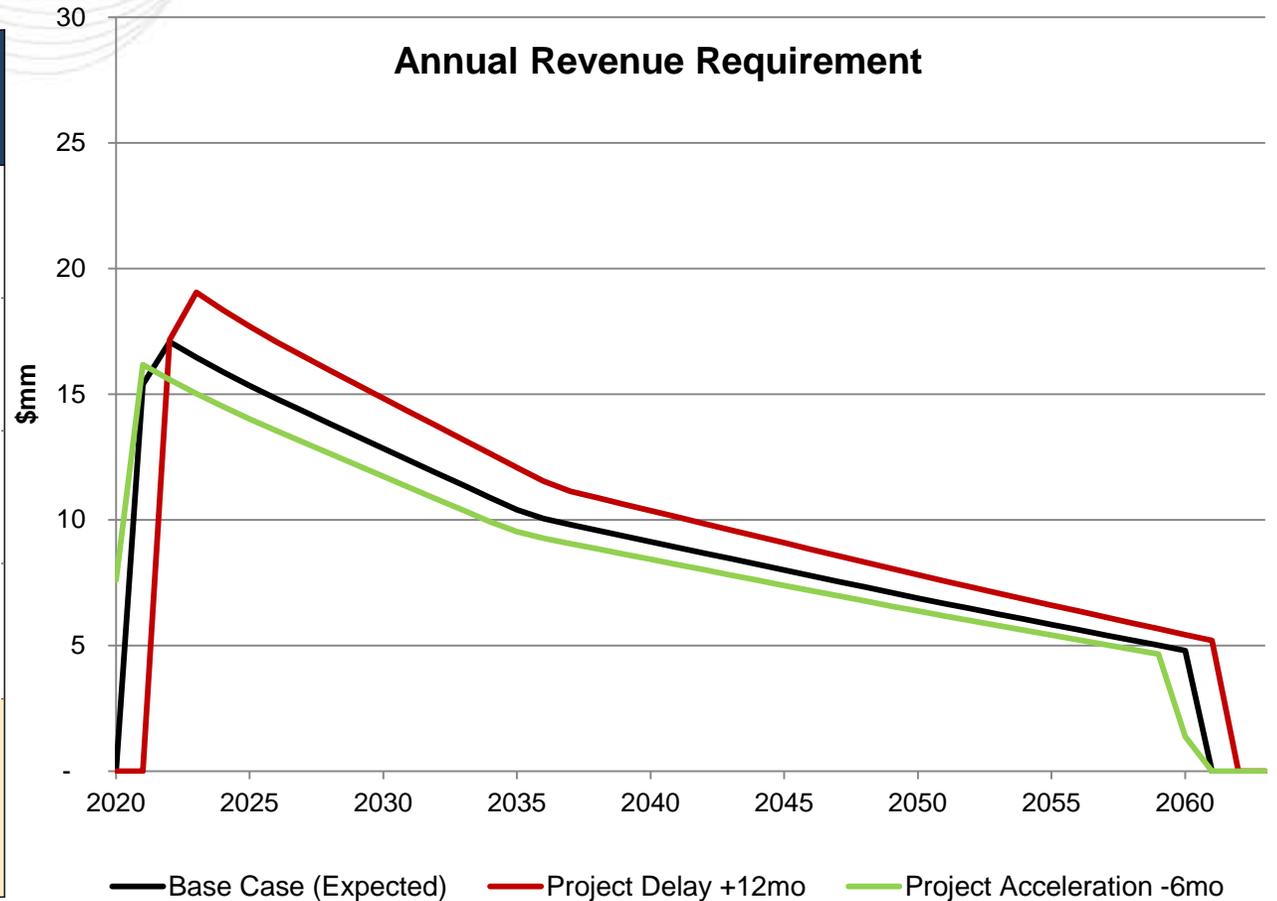
Base Case Inputs	Low Value	Expected	High Value
CapEx (MM, \$2016)	100	100	100
O&M (MM p.a., \$2016)	0.75	0.75	0.75
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Construction Period Length (months)	48	48	48



Base Case Inputs	Low Value	Expected	High Value
CapEx (MM, \$2016)	100	100	100
O&M (MM p.a., \$2016)	0.75	0.75	0.75
ROE (%)	10.82%	10.82%	10.82%
Equity % of Capital Structure	45%	50%	60%
Construction Period Length (months)	48	48	48



Base Case Inputs	Low Value	Expected	High Value
CapEx (MM, \$2016)	100	100	100
O&M (MM p.a., \$2016)	0.56	0.75	1.13
ROE (%)	9.50%	10.82%	12.00%
Equity % of Capital Structure	45%	50%	60%
Construction Period Length (months)	42	48	60

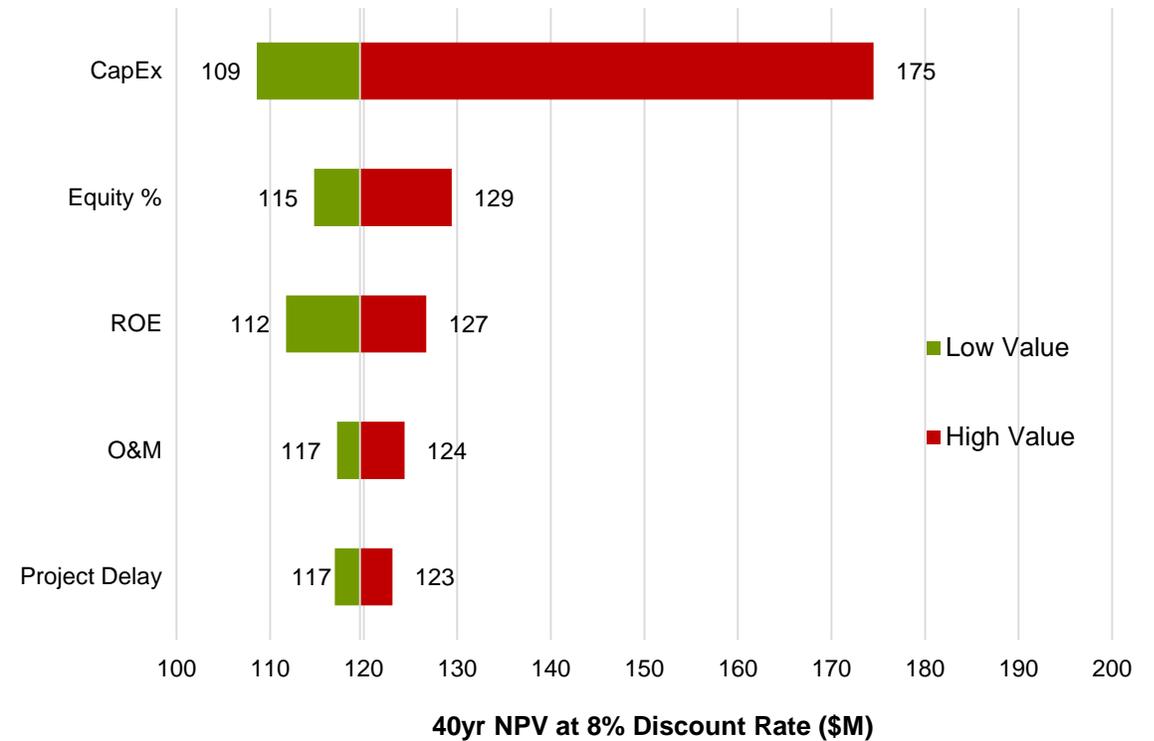


# Summary of NPV for Project Cost for Different Scenarios

- Summary of NPV analysis for cost containment categories and comparative impact for different sensitivities

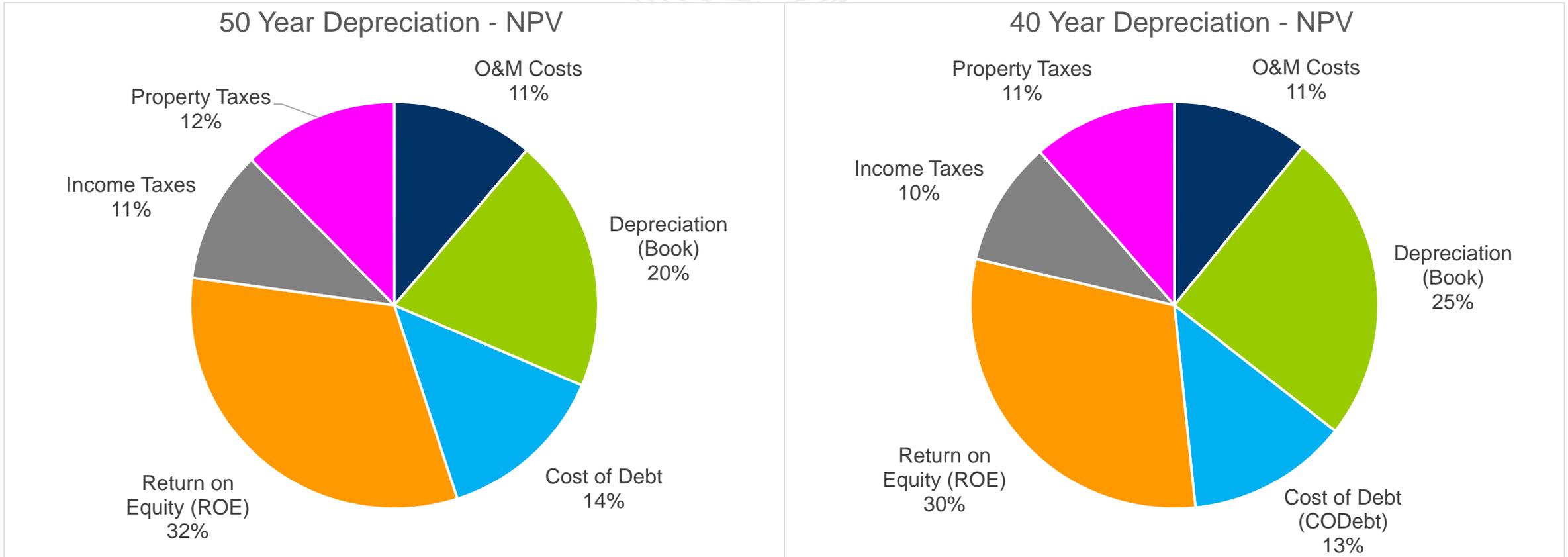
Base Case Inputs	Low Value	Expected	High Value
CapEx (MM, \$2016)	90	100	150
O&M (MM p.a., \$2016)	0.56	0.75	1.13
ROE (%)	9.50%	10.82%	12.00%
Equity % of Capital Structure	45%	50%	60%
Construction Period Length (months)	42	48	60

NPV Project Cost for Unconstrained Project



# Appendix

# Project Depreciation Timeframe Scenario



NPV: \$178.5M

NPV: \$177.5M