

EPRI Resource Planning

Scenario Analysis in Resource Planning



Automated capacity expansion
Production costing
LMP forecasting

Licensed by 28 utilities/RTOs, 5
states, and several consultants
and intervenors



Correlated Drivers



Commodity Prices

- Purchased Power
- Natural Gas
- Coal
- SO₂/NO_x Allowances



Demand

- “Base” load growth
- BTM generation
- Data centers
- Electrification



Environmental

- GHG reduction targets
- Renewable energy targets
- Sustainability practices



New Technologies

- Commercial availability
- Construction costs
- Tax credits

Scenario Matrix Example

		Scenarios									
		Reference	High NG	Low NG	High Demand	Low Demand	Nat'l CO2 Tax	CO2 Limit High NG	CO2 Limit Low NG	Zero Carbon Additions	
Market Drivers	Load	➔	➔	➔	⬆️	⬇️	➔	➔	➔	⬇️	
	Natural Gas Price	➔	⬆️	⬇️	➔	➔	➔	⬆️	⬇️	➔	
	Coal Price	➔	⬇️	↔️	➔	➔	⬆️	⬇️	↔️	➔	
	Technologies										
	Nuclear Economic Retirements	Staggered beg. 2027					None				
	Nuclear Additions	Eligible 2030					Eligible 2028	Eligible 2028; decreased cost		Eligible 2030; decreased cost	
	Nuclear License	60 Years					80 Years	60 Years		80 Years	
	Coal Economic Retirements	Staggered beg. 2026					All eligible beg. 2026 staggered based on age			Unlimited	
	Natural Gas Additions	CA, DE, MD, NM, VA, OR Limited					Limited after 2031			Limited	
	Natural Gas Retirements	Staggered beg. 2026					Staggered; but all eligible beg. 2026			Unlimited	
	Hydro	Existing									
	Geothermal	Existing									
	Other Renewables	Existing									
Carbon	50% reduction by 2030, 85% reduction from 2005 by 2050 no carbon price except State/Province					Tax	80% reduction from 2005 no interim target		50% reduction by 2032, 95% by 2050 from 2022		
% of Generation Additions											
Solar	37.7%	⬇️	↔️	⬇️	⬆️	⬇️	⬇️	⬆️	↔️		
Wind	33.0%	↔️	⬇️	⬇️	⬆️	↔️	⬇️	⬇️	⬆️		
GT	3.7%	⬇️	➔	↔️	⬇️	↔️	⬆️	⬆️	⬇️		
CC	11.7%	⬇️	⬆️	⬆️	↔️	➔	⬇️	⬇️	⬇️		
IC	1.6%	➔	⬆️	↔️	⬇️	⬆️	⬇️	⬇️	⬇️		
Storage	11.7%	↔️	⬇️	↔️	⬇️	➔	⬆️	⬇️	⬆️		
Nuclear	0.6%	➔	⬇️	↔️	⬇️	⬇️	⬆️	⬆️	↔️		
Distributed Generation	➔	↔️	⬇️	⬆️	⬇️	↔️	↔️	↔️	⬆️		
Transmission Additions	Known/under construction additions								Economic		

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