



Pasadena Water & Power

PWP 2015 IRP Update Portfolio Scorecards

May 15, 2015





Base Case Portfolio Scorecards: Financial (Fiscal Responsibility) Measures

Pasadena Water & Power

	60% GHG Reduction (Preferred Portfolio)	IPP 2025 Retirement	Reduced IPP Dispatch	50% RPS by 2025	70% RPS by 2030	Carbon Neutral
Total System Cost NPV (\$Millions)	\$1,377	\$1,419	\$1,437	\$1,477	\$1,524	\$1,743
Avg. 20-Year Portfolio Cost (\$Millions/Yr)	\$101.1	\$103.9	\$104.9	\$108.1	\$112.2	\$129.2
Levelized Direct Electric Cost 2015 (\$/MWh)	\$91.90	\$94.06	\$95.85	\$98.57	\$101.74	\$115.53



Base Case Portfolio Scorecards: System Reliability Measures

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	60% GHG Reduction (Preferred Portfolio)	IPP 2025 Retirement	Reduced IPP Dispatch	50% RPS by 2025	70% RPS by 2030	Carbon Neutral
Average Reserve Margin (%)	21%	20%	21%	24%	29%	29%
Minimum Reserve Margin (%)	9%	9%	9%	9%	9%	9%
Incremental FRAC from 2015 (MW)	53	53	53	78	78	78
20-Year Avg. Wholesale Sales (%)	23%	21%	11%	12%	17%	7%
20-Year Avg. Wholesale Purchases (%)	5%	5%	6%	6%	5%	0%



Base Case Portfolio Scorecards: Environmental Stewardship Measures

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	60% GHG Reduction (Preferred Portfolio)	IPP 2025 Retirement	Reduced IPP Dispatch	50% RPS by 2025	70% RPS by 2030	Carbon Neutral
CO ₂ Emissions (thousand metric tons)	13,003	13,129	9,416	9,088	8,783	5,838
2030 GHG Reduction from 2008 (%)	-64%	-64%	-64%	-68%	-74%	-100%
Realized GHG Emission Cost (\$/metric ton)	N/A	\$110	\$37	\$56	\$77	\$113
20 year Avg GHG Intensity (lbs/MWh)	1,070	1,014	876	837	792	572
Coal Burned (thousand tons)	45,629	40,581	23,807	23,757	23,755	28,270
Natural Gas Burned (Gbtu)	59,610	62,763	73,532	67,857	63,352	48,642