Multi-Site Comparison

January 25, 2026

Solar Resource Portfolio Analysis | 5 US Markets

BEST SITE

Phoenix, AZ

BEST GHI

5.75 kWh/m²

SITES ANALYZED

5

GHI SPREAD

0.93

Site Ranking by Solar Resource

Rank	Location	Coordinates	Avg GHI	Cap. Factor	Variability
1	**Phoenix, AZ**	33.45°N, 112.07°W	5.75	19.2%	35.3%
2	**Los Angeles, CA**	34.05°N, 118.24°W	5.46	18.2%	39.8%
3	**Las Vegas, NV**	36.17°N, 115.14°W	5.46	18.2%	38.8%
4	**Austin, TX**	30.27°N, 97.74°W	4.97	16.6%	37.5%
5	**Denver, CO**	39.74°N, 104.99°W	4.82	16.1%	41.6%

Site Suitability Assessment

Location	Resource Quality	Temperature Impact	Overall Rating
Phoenix, AZ	Excellent	Moderate	**Tier 1**
Los Angeles, CA	Good	Low	**Tier 2**

Las Vegas, NV	Good	Low	**Tier 2**
Austin, TX	Good	Low	**Tier 2**
Denver, CO	Good	Low	**Tier 2**

Portfolio Optimization Insights:

- Geographic diversification reduces weather-related production risk
- Sites with lower correlation in daily output provide better portfolio stability
- Temperature derating is significant in desert locations (Phoenix, AZ)

Methodology: All sites analyzed with identical 12-month dataset from NASA POWER. GHI = Global Horizontal Irradiance. Capacity Factor assumes 100kW fixed-tilt system with 80% efficiency. Temperature impacts panel efficiency (~0.4% loss per °C above 25°C).

Report prepared by **Mboya Jeffers** | January 25, 2026
Data Source: NASA POWER API