Power generation parameters of photovoltaic power stations in the United States

What is the US large-scale solar photovoltaic database?
The U.S. Large-Scale Solar Photovoltaic Database provides the locations and array boundaries of U.S. photovoltaic facilities, with capacity of 1 megawatt or more.

What is the largest photovoltaic plant in the US?
Furthermore since this facility is located alongside Nevada Solar One (64 MW capacity), Boulder Solar (150 MW capacity) and Tecren Solar projects (300MW) in the Eldorado Valley thus is attributed as one of the largest photovoltaic plants in US by forming a solar generating complex of more than 1 GW.

What percentage of PV systems are available?
Statistical Summary of Key Performance Indicators Across All 75 PV Systems Availability ranges from 31% to 100% with an average of 95.1%(Table 5). For each timestep (ideally 15-minute or one-hour intervals),the measured production was compared to the modeled production.

How much energy does a PV system use?
Hand et al. (2012) estimate 4.9 acres/MWacfor PV and 8.0 acres/MWac for CSP. Denholm and Margolis (2008) estimate 3.8 acres/MWac for fixed-tilt PV systems and 5.1 acres/MWac for 1-axis tracking PV systems.

What happened to utility-scale PV power and energy density?
The last major study of utility-scale PVs power and energy density in the United States (from Ong et al.) is now almost a decade out of date, yet is still routinely cited on matters pertaining to land requirements and land use--despite the rapid evolution of the industry in the years since its publication.

What is the energy ratio of a PV system?
Distribution of values of "Performance Ratio" across all 75 PV systems. Energy ratio is the total measured production divided by total modeled production,and thus includes both the effects of availability (downtime) and performance ratio (inefficiency) in the same metric. Energy ratio ranges from 29% to 100% with an average of 74.6%(Table 7).

45 rows· The PV stations are sorted by capacity. The data in the table includes the state of location, capacity, annual output, land area occupied, developer, and year of grid connection.

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