

Utility-scale solar means projects of 4MW_{AC} and over: Industry survey recommends new threshold – and drops ‘megawatts peak’

The capacity of utility-scale solar projects will in future be expressed in terms of their AC output to the grid, if recommendations by sector specialists Wiki-Solar are adopted. Historically many commentators, particularly in Europe, have used the DC rating or ‘megawatts peak’ to define system capacity.

Wiki-Solar releases today the results of the consultation it conducted in the second half of 2013 and concludes that ‘utility-scale solar’ should be defined as projects of 4 MW_{AC} and above.^[1] The threshold had previously been set at 10 MW_P – DC megawatts peak.

Most of the support for reducing the cut-off came from India and Europe, where regulatory measures have adopted a 5 MW threshold, or where subsidies for projects over 10 MW have been discontinued. Respondents from North America and other parts of Asia were less concerned about the 10 MW limit. Because of the move from DC to AC ratings, Wiki-Solar adopts the new 4MW_{AC} threshold, which is roughly equivalent to the 5MW_P level favoured by most respondents.

“There is strong rationale for using the AC rating and dropping megawatts peak – a measure of interest only to the photovoltaics specialist”, says Philip Wolfe, who wrote the book on utility-scale solar.^[2] “The utilities aren’t concerned about the DC output of the solar panels, any more than the thermal capacity of the boilers in a gas-fired power station. It’s the AC power delivered to the grid that matters; and this also allows photovoltaic stations to be compared directly with wind, concentrated solar and all other generation technologies.”

Conveniently for Wiki-Solar, the combined effect of reducing the threshold and moving to AC rating is almost neutral. The organisation had already published analysis to show that cutting the threshold from 10 to 5 MW_P would add about 20% to the overall capacity.^[3] Conversely, as shown by its paper on capacity ratings, the AC output is typically 15 to 20% below the DC peak power.^[4] The October global figure, quoted at about 18 GW^[5], would have been almost the same on the new basis, says Wiki-Solar. However the effects are not uniform; for example, the United Kingdom – already Europe’s top market in 2013 – should jump into the global top ten under the new measure.^[3]

The new definition will be used when the 2013 figures are published in the next week or two. Experts anticipate that worldwide capacity will then have topped 20 GW (on either measure).

T E X T E N D S

Notes for editors:

- [1] Paper defining ‘utility-scale solar’ available at:
<http://wiki-solar.org/data/glossary/utility-scale.html>
- [2] Philip Wolfe’s book “Solar Photovoltaic Projects in the mainstream power market” was published by [Routledge](#) in 2012.
- [3] For release on assessment of change to utility-scale threshold see:
http://wiki-solar.org/library/public/131113_Europe_wins_if_utility-scale_threshold_changes.pdf

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- [4] Paper on DC and AC ratings of solar power stations available at:
<http://wiki-solar.org/data/glossary/capacity.html>
- [5] Latest global capacity quoted in ranking of world's top solar EPC contractors in November 2013:
http://wiki-solar.org/library/public/131118_Multi-nationals_target_EPC_contracts_as_utility_market_tops%20_%2410bn.pdf
- [6] Wiki-Solar's database covers over 2,000 utility-scale solar projects, of which about two-thirds are operational, and the remainder are under construction or development.
- [7] A capacity rating of 10MW is roughly equivalent to the consumption of 3,000 households in Europe.

For more information:

+44 (0)7971 786417

philip@wiki-solar.org

