

New survey of solar PV market leaders estimates 60 GW of module capacity and 50 GW of cell capacity to be built

CEA's PV Supplier Market Intelligence Report showcases large wafer adoption and other emerging technologies in the solar industry

DENVER, CO, USA, October 7, 2020 /EINPresswire.com/ -- <u>Clean Energy Associates (CEA)</u>, a leading solar and storage technical advisory, tracks the industry's continued evolution to everlarger wafer sizes, additional manufacturing capacity, and gallium doping in its newly-released PV Supplier Market Intelligence Program Report for 2020.

The latest report, available by subscription, covers which suppliers have already adopted 182 mm or 210 mm wafers, which are still taking a wait-and-see approach, and rollout plans by PV module manufacturing leaders. As the industry continues to add capacity, CEA projected in its prior quarterly report that 180 GW of module capacity will be online by the end of 2020. With the market still feeling the effects of recent polysilicon production disruptions, the report takes a closer look at available supply and its implications for 2021.

Report highlights:

*LONGi reclaims its spot as the global leader in the module and cell production, adding 10 GW of new module capacity and 7.4 GW of new cell capacity to reach 23.5 GW of total module production and 17 GW of total cell production. The expansion is projected to continue with a minimum of 5 GW of additional module capacity and several GW of additional cell capacity by the end of the year.

*Larger wafer adoption leads suppliers to settle into "wafer alliances" based around adopting the same wafer size. The biggest technological contributor for this trend is the introduction of the G12 (210 mm) and M10 (182 mm) wafers, scarcely a year after 166 mm wafers became standard. In general, manufacturers that have large in-house wafer capacity and higher vertical integration prefer the M10 (182 mm) wafer size over the G12 (210 mm), since the cost of vertically upgrading wafer, cell, and modules lines, as required by migration to the G12 platform, is very high. While major suppliers aim to release new large wafer products at the end of this year, smaller suppliers continue to wait for the dust to settle before choosing a size, and a dense interconnection technology, for the coming years. And the residential market may require different configurations before converting.

*Gallium-doped cell adoption is on the rise. JA Solar and LONGi have adopted gallium-doped cells, which have less LID and may offer better LeTID performance. With the expiration of the key patent for gallium doping in April 2020, several other manufacturers are also committed to gallium doping.

"We expect to see multiple wafer sizes on the market for some time, as suppliers seek new ways to reduce cost, increase value for buyers and differentiate their products. This unprecedented innovation simultaneously brings uncertainty, as suppliers adopt the wafer platform, the interconnection platform, and optimize the overall module," said Paul Wormser, VP, Technology of Clean Energy Associates.

Companies analyzed in the report are: Astronergy, BYD, Canadian Solar, First Solar, GCL, Hanwha Q CELLS, JA Solar, Jinergy, Jinko Solar, Jolywood, LONGi, Risen, Talesun, Phono Solar, and Trina Solar. It follows new developments in 600 watt-plus module rollout (with a special section on dense cell-to-cell interconnection risks).

The complete report, authored by CEA's Technology and Quality team, is available by subscription and includes insights gathered from 1-on-1 interviews with the technical leaders at many of the industry's leading suppliers. A sample of the report <u>can be downloaded for free</u> here.

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