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The main reason why solar panel manufacturers choose silicon solar panels are because they are relatively affordable. However, the main issue with silicon solar panels is that they convert only around 20% of available sunlight into usable electricity.

The recent study conducted by the University of Illinois claims that the answer for improving the solar energy efficiency may lie in multilayered solar panels.

According to this study by using a precisely controlled fabrication process, manufacturers can produce multilayered solar panels with the potential to be 1.5 times more efficient compared to traditional silicon panels.

In their study researchers used semiconductor material gallium arsenide phosphide together with silicon. The downside is that gallium arsenide phosphide as well as other semiconductor materials, while being efficient and stable, are expensive, so making panels composed entirely from them is not reasonable for mass production at this time.

Silicon solar cells are closing in on a stage where they are reaching their limits which means that the solar industry will have to find new ways to improve efficiency and move forward.

Using multilayered solar panels has potential to drastically improve solar panel efficiency and lead to 1.5 times more energy out of the same amount of land on its solar farms, or a household could use 1.5 times less space for rooftop solar panels.