

Realization of a low carbon society through game changing technologies

Ultra-Thin Silicon-Based Triple-Junction Solar Cells

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Summary :

- Conversion efficiency of Si solar cells tends to be saturated at $\sim 26\%$.
- Aiming to achieve the efficiency of 35% with Si based triple-junction solar cell.
- Enhancement in bandgap of Si with **quantum confinement structures**.
- Increase of the operating voltage by using the Rib structure
- Introduction of 100 GW photovoltaic system in Japan **reduces CO₂ emissions by 5%**.

