

Semiconductor

R&D Project Title: Development of SiC epitaxial layer growth technology for ultra-high voltage power devices

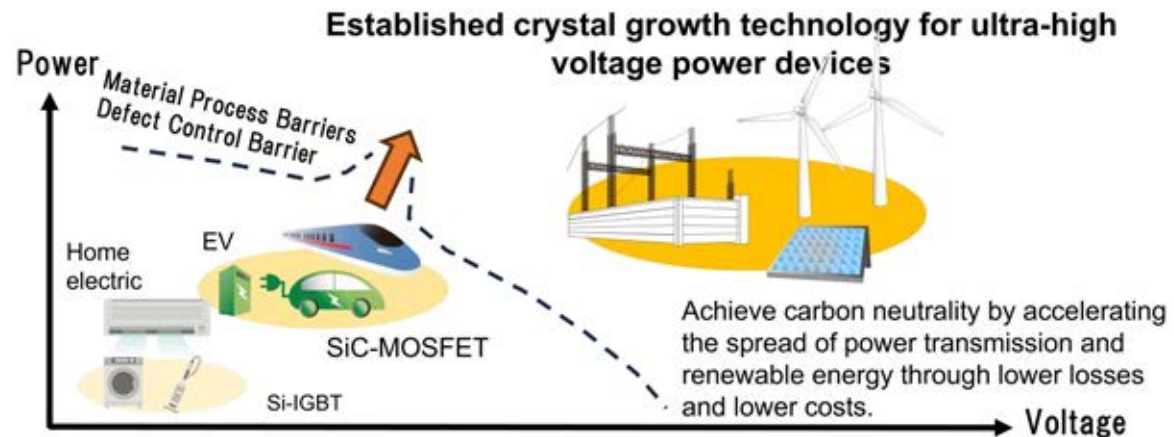
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Summary :

The diffusion of DC power grids is essential for the effective use of renewable energy in the world. This research aims to establish crystal growth technology essential for high-efficiency, low-cost, ultra-high-voltage SiC power devices, which will be the key device for the widespread use of this technology.



For long-distance power transmission, DC transmission has lower losses than AC, but because DC and AC must be mutually converted, lossy and expensive conversion plants are used. The introduction of DC power transmission is steadily increasing around the world for the transmission of renewable energy such as offshore wind power and for the distribution of green energy across national borders. This research and development is a technology that will greatly contribute to lower loss and lower cost conversion plants. This is expected to directly reduce CO₂ emissions due to lower losses, and further reduce CO₂ emissions through the further spread of DC power transmission due to lower costs.