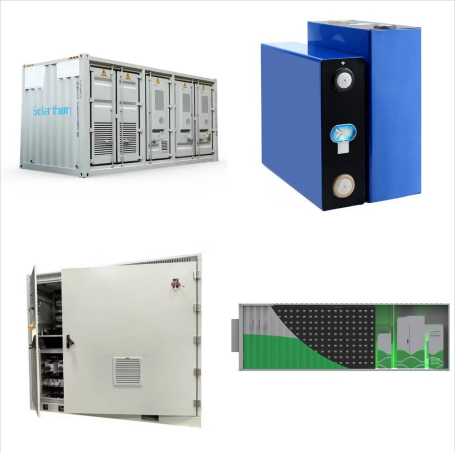
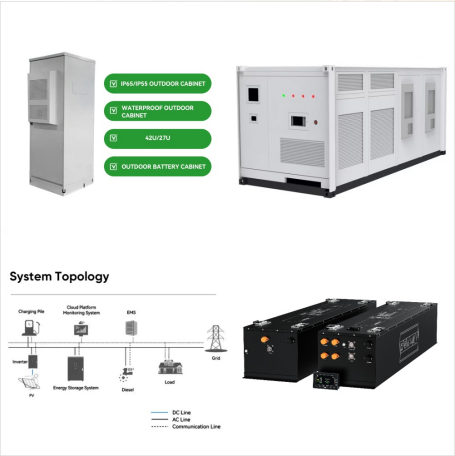
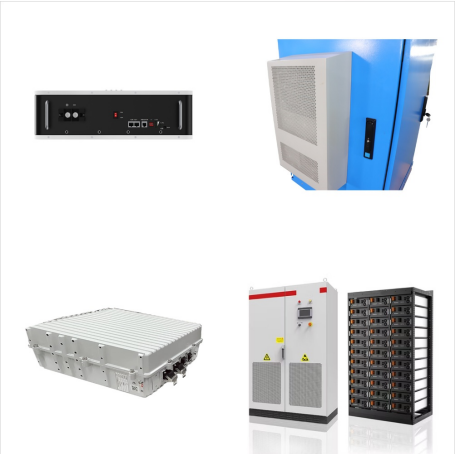


An organic solar cell (OSC[1]) or plastic solar cell is a type of photovoltaic that uses organic electronics, a branch of electronics that deals with conductive organic polymers or small organic molecules, [2] for light absorption and charge transport to produce electricity from sunlight by the photovoltaic effect.

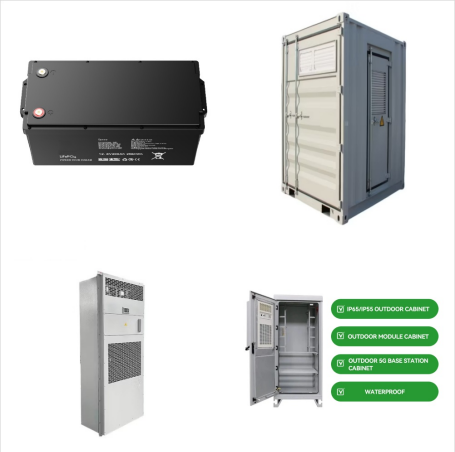


Organic photovoltaic (OPV) solar cells aim to provide an Earth-abundant and low-energy-production photovoltaic (PV) solution. This technology also has the theoretical potential to provide electricity at a lower cost than first- and second-generation solar technologies.

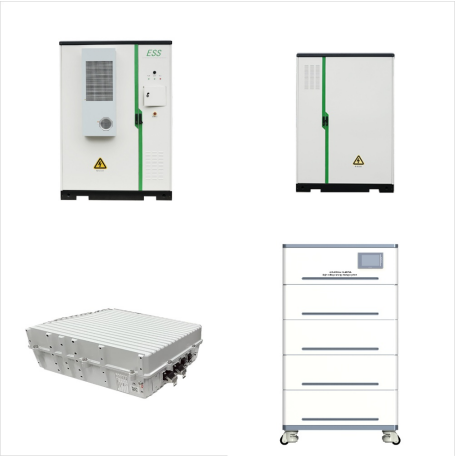


A concise overview of organic solar cells, also known as organic photovoltaics (OPVs), a 3rd-generation solar cell technology. OPVs are advantageous due to their affordability & low material toxicity.

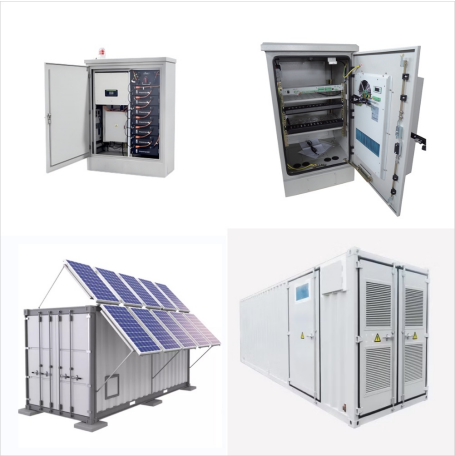
ORGANIC PHOTOVOLTAIC MATERIALS



Organic solar cells (OSCs) have become a promising green energy technology due to their lightweight, low cost, and flexibility 1. The structure of OSCs is mainly made of bulk heterojunctions

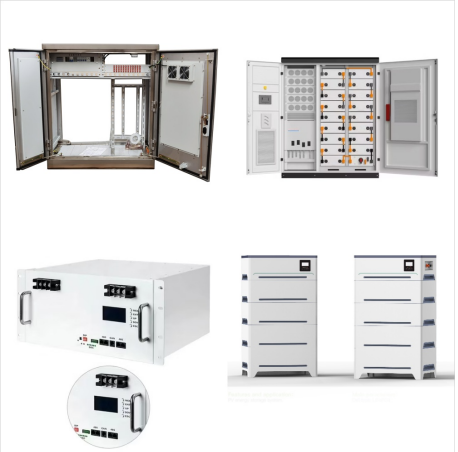


Organic photovoltaic (OPV) cells, also known as organic solar cells, are a type of solar cell that converts sunlight into electricity using organic materials such as polymers and small molecules. 83,84 These materials are carbon-based and can be synthesized in a laboratory, unlike inorganic materials like silicon that require extensive mining

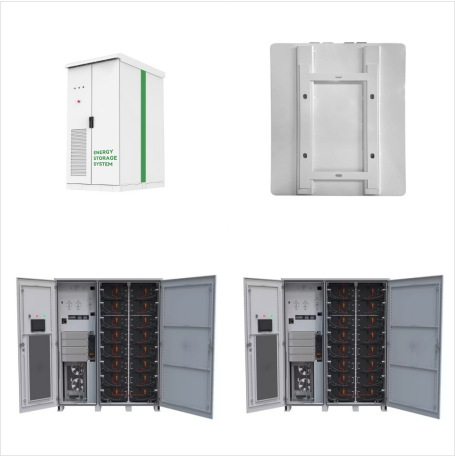


NREL developed the Computational Database for Active Layer Materials for Organic Photovoltaic Solar Cells with calculations on electronic properties of tens of thousands of new polymers and small molecules that are potential candidates for new absorbers.

ORGANIC PHOTOVOLTAIC MATERIALS



Organic solar cells, also known as organic photovoltaics (OPV), utilize organic materials to convert sunlight into electricity. They operate based on the absorption of photons by organic semiconductors, which create excitons???electron???hole pairs.



Organic photovoltaics (OPVs) show considerable promise for application as solar power generation sources due to their ultralight weight and flexible form factors, ability to integrate devices