



FINULENT SOLUTIONS
PAR EXCELLENCE, PAR KNOWLEDGE

THE SUSTAINABLE

HARVEST

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- RENEWABLE ENERGY IN AGRICULTURE
- FIELDS OF THE FUTURE
- POWERING THE FUTURE, ONE FARM AT A TIME
- HARVESTING FINANCIAL REWARDS



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RENEWABLE ENERGY IN AGRICULTURE

Renewable energy in agriculture refers to the use of sustainable and environmentally friendly energy sources to meet the energy needs of agricultural operations. In essence, it's all about harnessing natural resources like sunlight, wind, water, and biomass to power various farm operations, replacing traditional fossil fuels and reducing reliance on unsustainable energy sources.



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FIELDS OF

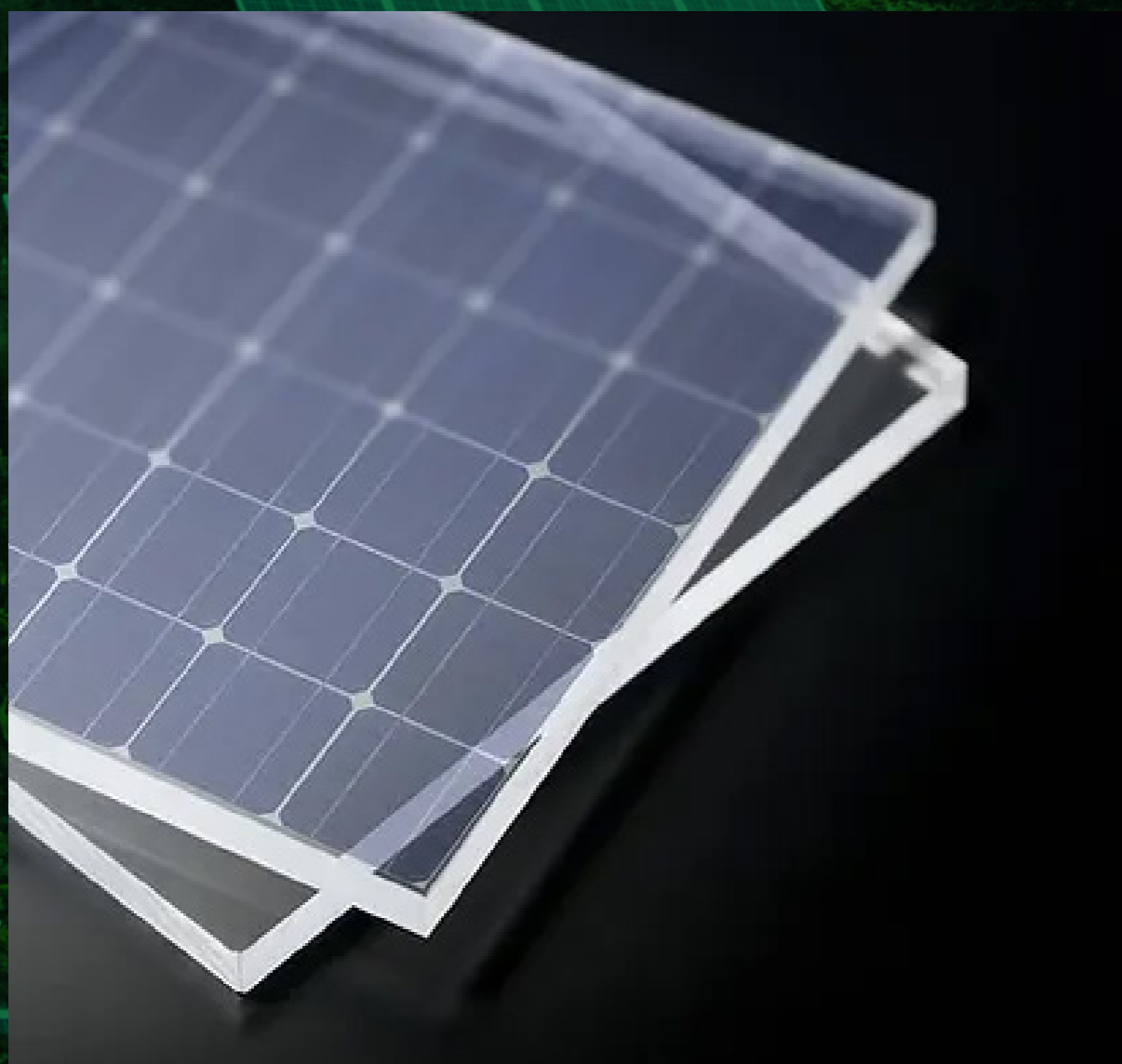
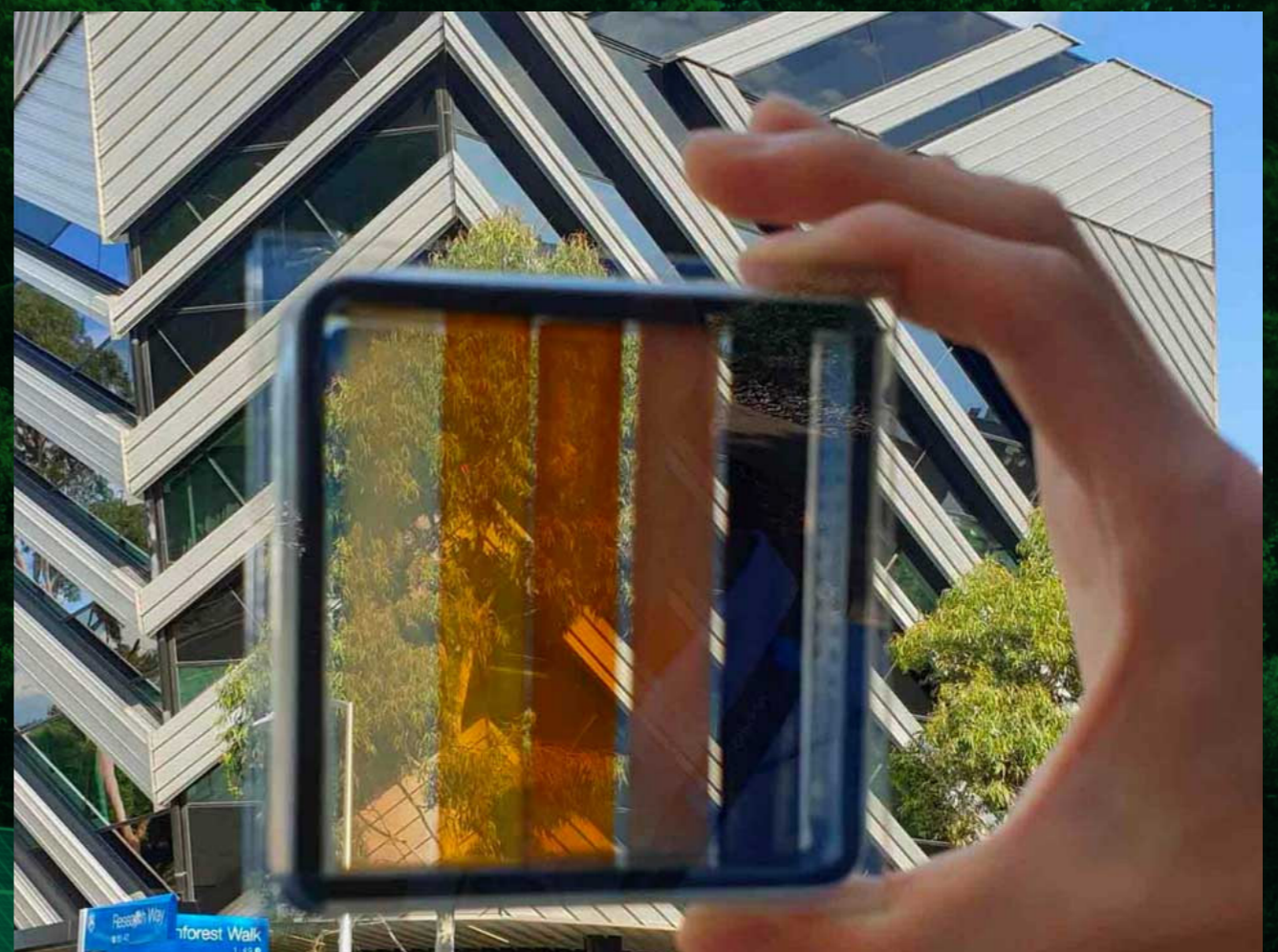
THE FUTURE



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TRANSPARENT PHOTOVOLTAIC (TPV) PANELS

These innovative panels are revolutionizing energy harvesting in agriculture by allowing light to pass through, enabling simultaneous electricity generation and crop production in greenhouses or vertical farms. Think rooftops & building facades doubling as power sources, maximizing land use, and fostering a symbiotic relationship between energy & agriculture.



As efficiency climbs and costs come down, TPVs could become commonplace in greenhouses, vertical farms, and even integrated into architectural designs, paving the way for a world where farms flourish while generating their clean energy.

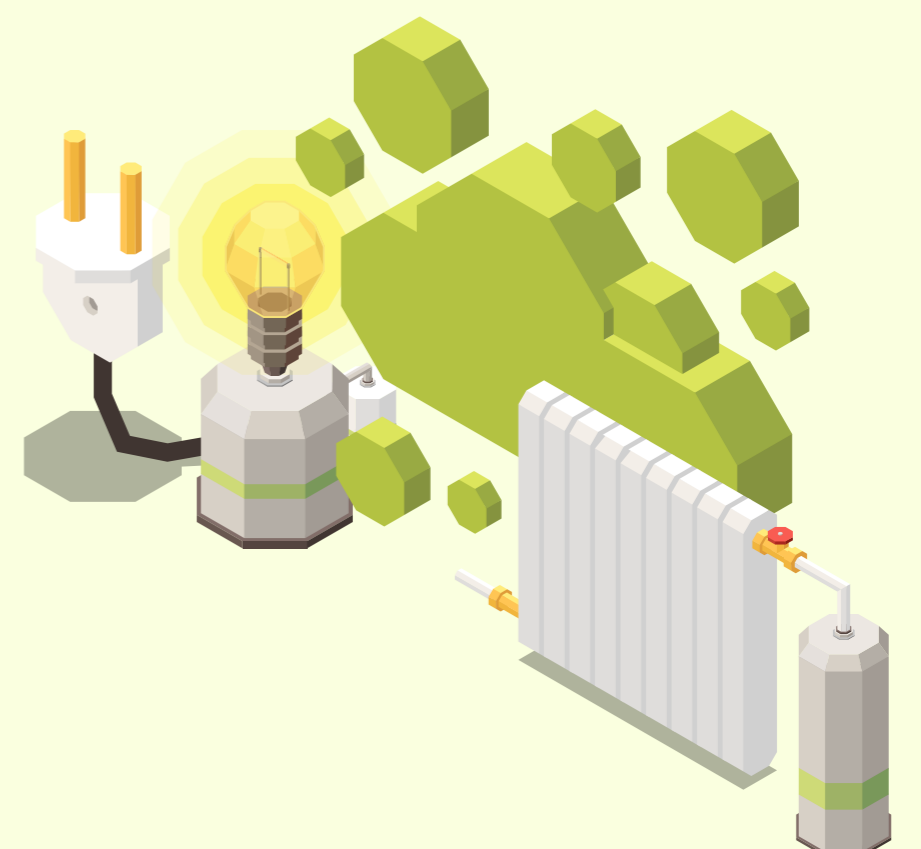
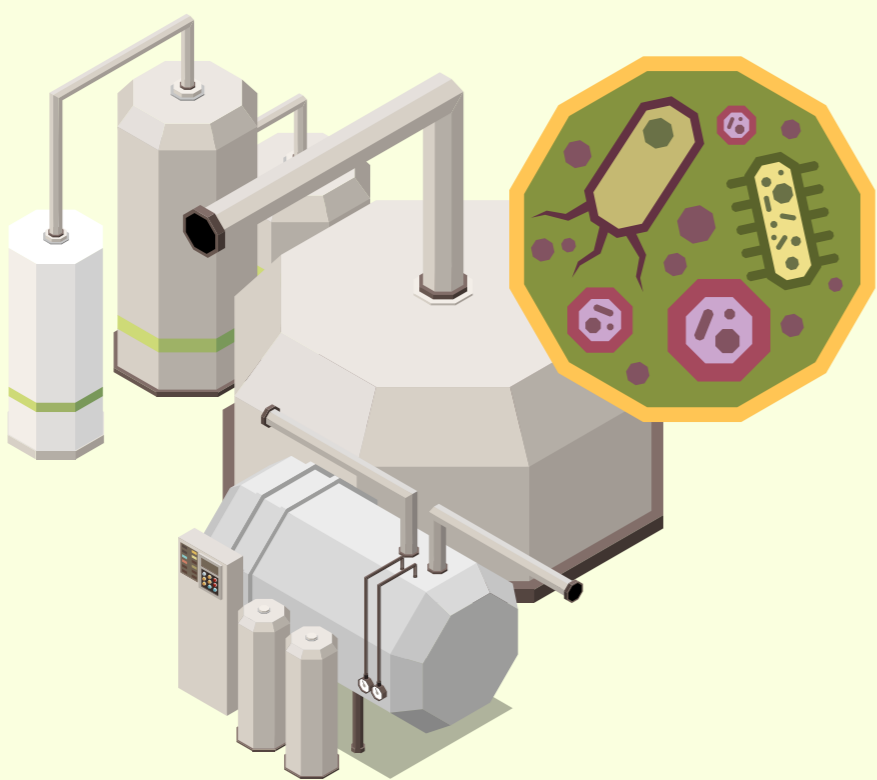


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BIOCHAR PRODUCTION



Biochar creation relies on pyrolysis, a thermochemical conversion process that breaks down biomass (organic matter) in a limited-oxygen environment. This thermal decomposition occurs between 300°C and 550°C, depending on the desired biochar properties and feedstock type. A wide range of biomass can be used for biochar production, offering numerous benefits such as enhancing soil fertility and water retention and serving diverse applications, including filters and building materials.





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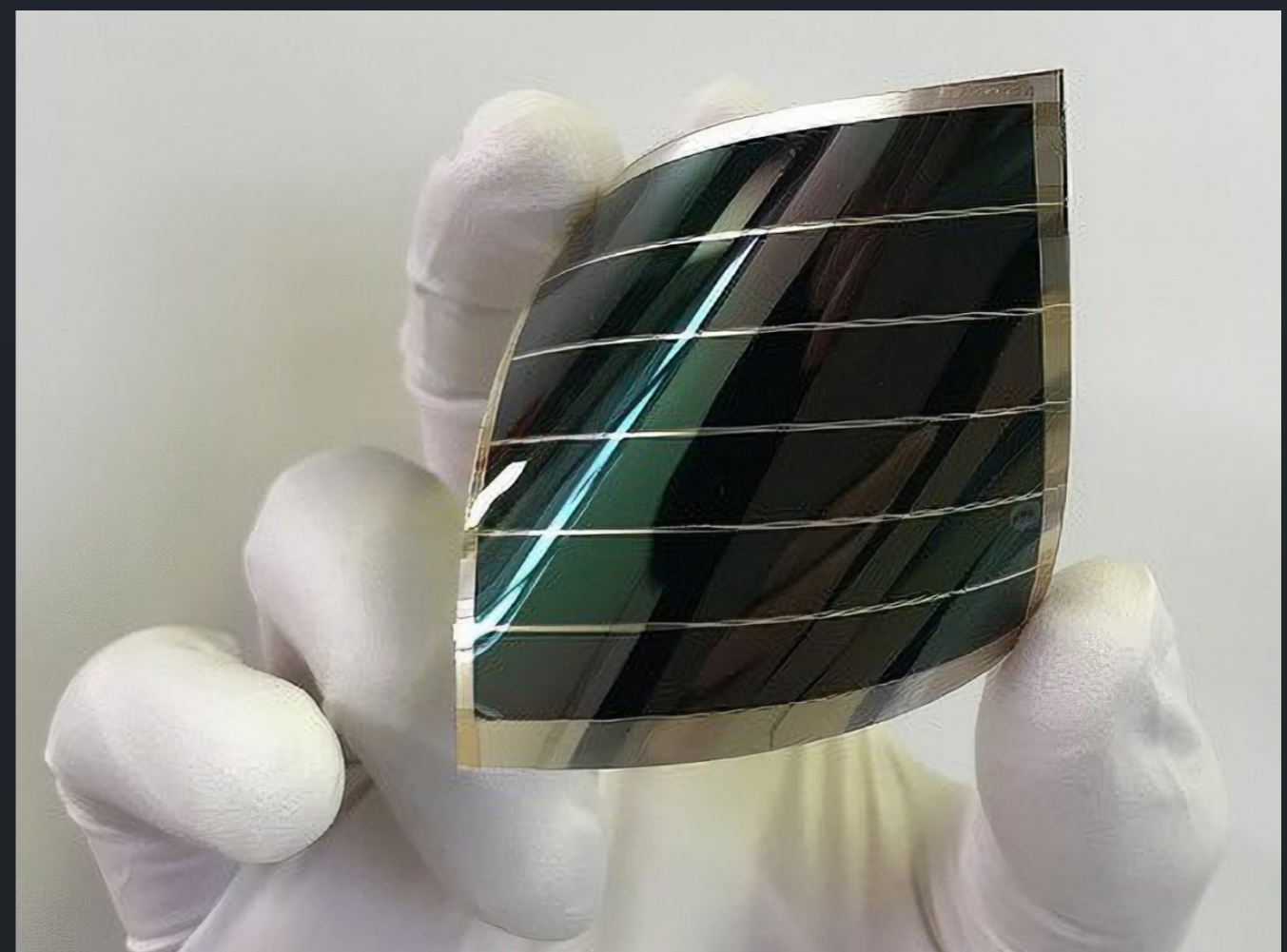


ORGANIC SOLAR CELLS

Imagine solar panels as thin, flexible sheets, printable on plastic. Organic solar cells, using conjugated polymers, aim for cost-effective large-scale production through techniques like spin-coating and printing.

With a blend of donor and

acceptor materials optimizing light absorption, they target 18% lab efficiency, with the aim of reaching 25%. Lightweight and flexible, these cells offer possibilities for diverse applications and building integration.





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**POWERING THE FUTURE,
ONE FARM AT A TIME**





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ELLINBANK DAIRY FARM, AUSTRALIA

Nestled in Victoria's Gippsland, Ellinbank Dairy Farm is a pioneer in sustainable dairy farming, aiming to be the world's first carbon neutral dairy farm. Using a 1.2-megawatt solar system and a 600-kilowatt wind turbine, Ellinbank showcases the potential of renewable energy integration, reducing reliance on fossil fuels.

Ellinbank Dairy Farm pioneers sustainable practices, utilizing innovative waste management like cow manure-derived biogas for clean electricity. Their commitment to data-driven energy optimization and knowledge-sharing, positions them as trailblazers, inspiring wider adoption of sustainable practices in the dairy industry.





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HEATING IN GREENHOUSES, NETHERLANDS

Geothermal energy is revolutionizing Dutch agriculture by replacing traditional fossil fuels in greenhouse heating with naturally heated water from deep wells.

This shift results in a 50% reduction in energy bills, a significant decrease in greenhouse gas emissions, improved crop yields, and greater farm independence.

The Westland region showcases geothermal success, with thousands of hectares of greenhouses thriving on this renewable resource. Beyond greenhouse heating, Dutch farmers use geothermal energy for heating livestock buildings, drying crops, and promoting sustainable aquaculture. Ongoing research and government support promise a greener future for Dutch agriculture.

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HARVESTING FINANCIAL REWARDS





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NETHERLANDS' FARM ENERGY TRANSITION FUND, EUROPE

Launched in 2023, the Netherlands' Farm Energy Transition Fund (FEF), managed by the Netherlands Enterprise Agency (RVO), allocates €120 million to assist farmers in adopting renewable energy and efficiency measures. The FEF supports projects like installing solar panels and wind turbines, targeting individual farmers, groups, and agricultural entrepreneurs. It offers grants covering up to 50% of project costs, co-financing with favorable loans, and technical assistance. The fund significantly contributes to reducing greenhouse gas emissions in agriculture, enhancing operational efficiency and profitability for farmers, playing a crucial role in the transition to a sustainable and climate-friendly future.

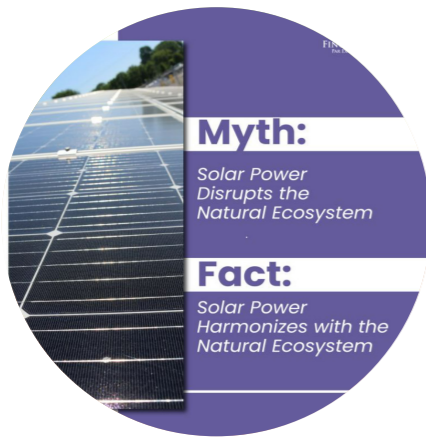


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PRADHAN MANTRI KISAN URJA SURAKSHA YOJANA, INDIA

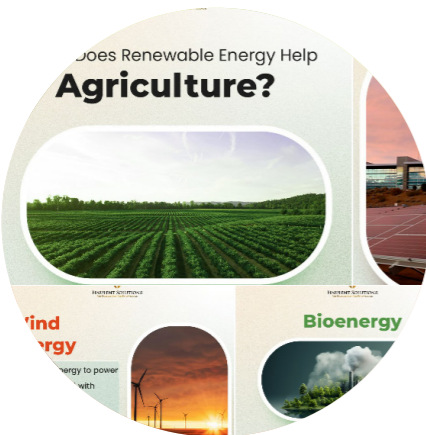
The Pradhan Mantri Kisan Urja Suraksha Yojana (PM-KUSUM) is a government initiative in India launched in 2019 to promote renewable energy in agriculture. It comprises three components: A.) To provide financial assistance for on-farm solar PV systems, B.) To support grid-connected solar pumps for irrigation and C.) To facilitate the conversion of diesel-powered pumps to solar. With substantial subsidies from the government and state, the program has successfully installed over 3.3 million solar pumps across India by March 2023. PM-KUSUM reduces reliance on fossil fuels, enhances energy security for farmers, lowers greenhouse gas emissions, and contributes to increased farm income through savings on energy costs.

FINUShots



Did you know this myth about solar energy in agriculture?

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Learn about different forms of renewable energy sources in agriculture!

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