Government Support for Agrivoltaics Installation

PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan) is the scheme of the Ministry of New and Renewable Energy (MNRE), Government of India aimed at supporting the agriculture sector through the setting up of decentralized solar power plants, replacement of agriculture diesel pumps with solar agriculture water pumps and solarisation of existing grid-connected agriculture pumps

What are the targets of the scheme?

The targets under each of the components are

- **Component-A:** Setting up of 10,000 MW of Decentralized Ground/ Stilt Mounted Grid Connected Solar up to 2 MW
- **Component-B:** Installation of 20 Lakh Standalone Solar Agriculture Pumps
- **Component-C:** Solarisation of 15 Lakh Grid Connected Agriculture Pumps through individual pump as well as through Feeder level Solarisation

Stakeholders

Beneficiaries: Individual Farmers, Group of Farmers, Water User Associations, Cooperatives, panchayats, Farmer Producer Organizations (FPO), Primary Agriculture Credit Societies (PACS), Community/cluster based irrigation system as beneficiaries.

Implementing Agencies: State Nodal Agencies, State Agriculture Department, DISCOMs, Minor Irrigation Department, GENCO, any other Department designated by State Government

- Financial Institutions
- Vendors

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Agrivoltaics: Sustainable Farming with Solar Power

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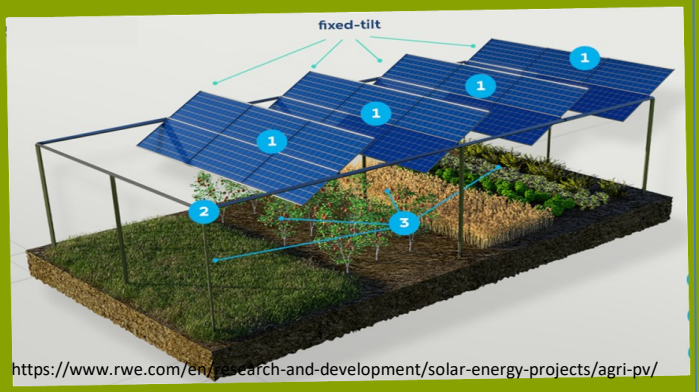


https://www.rwe.com/en/research-and-development/solar-energy-projects/agri-pv/

Fixed tilt modules with cultivation below them

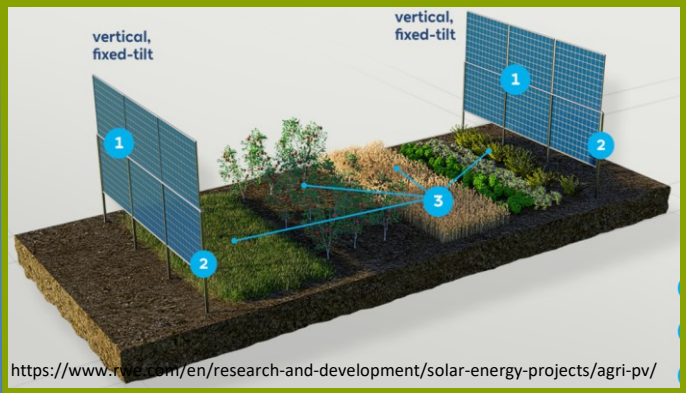
Crop Suitable for AV

- ✓ Corn
- ✓ Peas
- ✓ Potatoes
- ✓ Garlic
- ✓ Cabbages
- ✓ Cabbages
- ✓ Soybeans
- ✓ Tomato
- ✓ Coriander
- ✓ Cucumber
- ✓ Mushrooms

Advantages of AV System

- An additional source of revenue
- Reduce drought stress on crops
- Increased land use efficiency
- Reduced energy costs
- Better microclimate
- Reduce soil erosion
- Reduced water usage

Types of Agrivoltaics System



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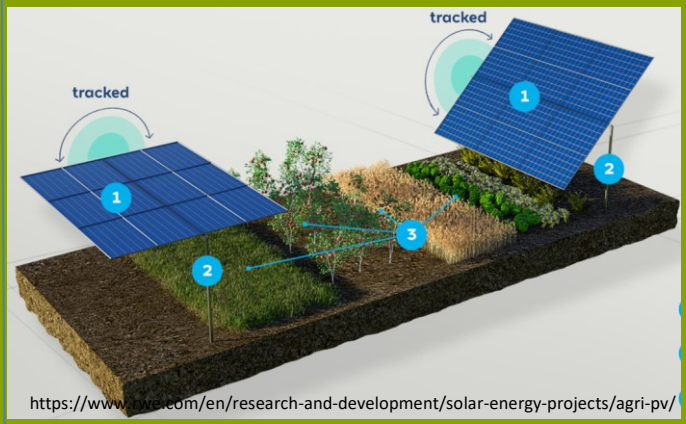
Vertical modules with cultivation between module rows



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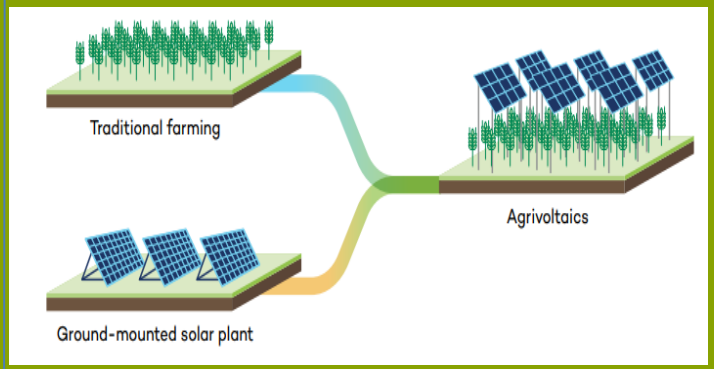
Movable modules follows the course of the sun

Introduction

- **Agrivoltaics** is a green energy attempts to fulfill worldwide energy needs while substituting fossil fuels. It does, however, necessitate a vast amount of land
- India may witness growing competition for land resources between agriculture and renewable energy
- To meet sustainable development goals and energy demand, the energy sector must be transformed by deploying low-emission energy sources and increasing the share of renewable energy
- As India strives for net-zero emissions by 2050, the integration of photovoltaics (PV) with agriculture has unlocked an emerging field known as agrivoltaics (AV).

Agrivoltaics (AV)?

Agrivoltaics is the simultaneous use of land for both agriculture and photovoltaic (PV) power generation



India is blessed with more than 300 days of sunshine hours with solar insolation ranging between 4 to 7 kWh/m^2/day

Arid and semi-arid regions, as well as peri-urban areas, are likely to be favorable locations for agrivoltaics in India