A RACK

Irrigation using water collected by solar arrays

In the American west, and regions around the globe with similar climates, water scarcity impedes farming what was once prime agricultural land. At the same time much of this land is suitable for solar farms to meet demand for clean energy. Roll-A-Rack's innovation of irrigation using rainwater collected from a nearby solar array not only allows users to avoid the either-or question of producing energy or producing food, it creates a symbiotic relationship, whereby nearby solar farms make land more suitable for agriculture. Drip irrigation, using stored water, is several times more efficient than rain at irrigating crops. Only about 20% of rain water effectively irrigates crops, with the remainder evaporating, running off, or soaking into soil away from the roots. This means that if a plot of land were equally partitioned for solar and crops, effective rainfall on crops would be magnified fivefold.





Creating a mutually beneficial relationship between clean energy and agriculture





Roll-A-Rack can also act as a firewall to protect land from wildfires. During fire safety certification the Roll-A-Rack array very effectively halted encroaching flames. A Roll-A-Rack array surrounding crops could halt encroaching wildfires.



Rain falls on the solar panels and runs off into the mounting racks

Water flows through the racks to the ends where it flows into the drainage ditch

Water flows through the drainage ditch to the end where it flows into the reservoir