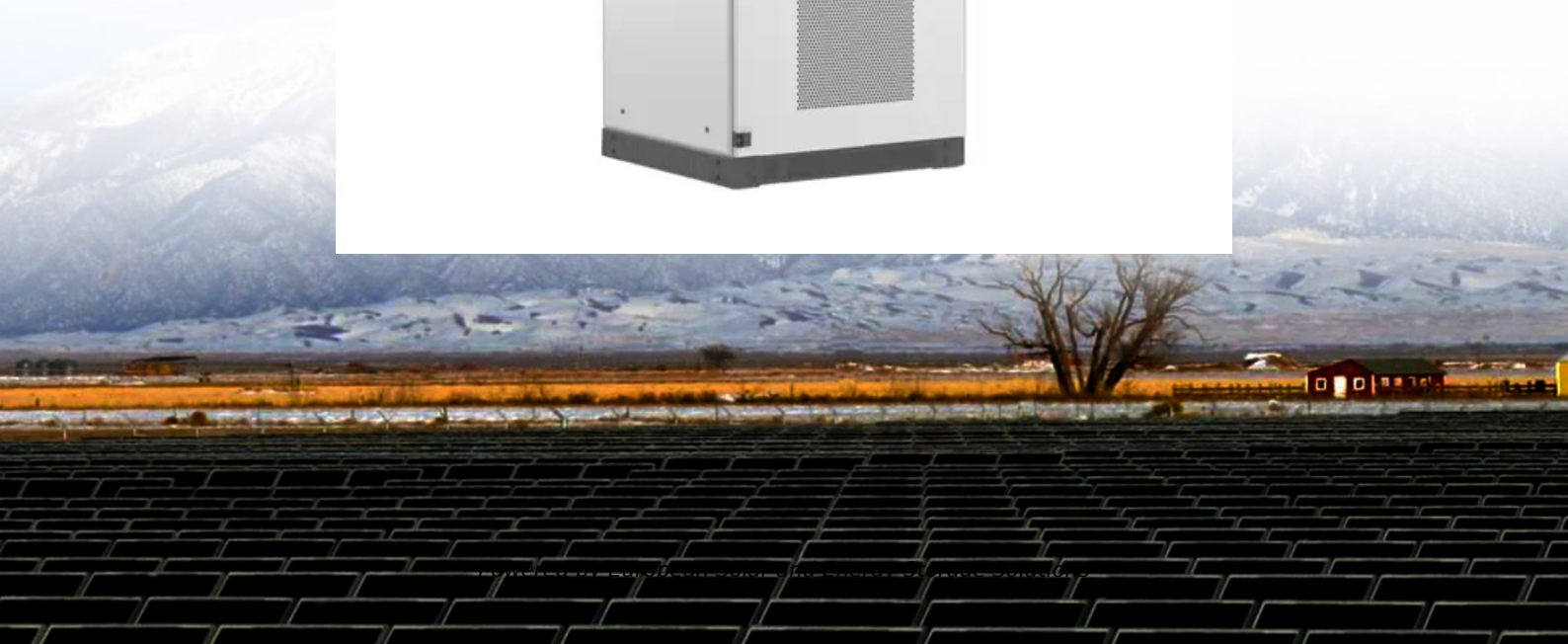


## European Solar and Energy Storage Solutions

**There are photovoltaic panels  
on the ground and Chinese  
medicinal herbs are planted  
under them**



## Overview

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Each species was divided into two treatments: plants grown under the local conventional agroecosystem, and each covering 2 ha (which served as the control) and plants grown under the photovoltaic panels, and *B. chinense* covering 4 ha and *M. sativa* covering 14 ha (which served as the APV).

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Solar drying is one of the drying technique for drying medicinal herbs in the rural areas (Chua and Chou, 2003). Some of the medicinal herbs in the solar dryer should not be exposed to direct solar radiation due to discoloration and loss of aromatic properties.

*Pinus sylvestris* var. *mongolica*, *Astragalus membranaceus* var. *mongholicus*, and *Medicago sativa*, were planted between the photovoltaic panels, and nearby areas with natural grass vegetation were used as a control.

In this study, a review on different techniques of drying medicinal plants using the solar energy applications has been presented. Temperature is the strongest effect on losing the biologically active substances during the drying process. The higher temperatures and longer drying time caused the color damage to increase dramatically.

Since 2017, the Chinese government has demonstrated a heightened focus on modes such as “solar energy + sand control” and “solar energy + ecological restoration,” accompanied by the implementation of a series of policies designed to foster the development of desert ecological PV plants. Can solar energy be used to produce medicinal herbs?

Mehta et al. (2017) analyzed the drying systems with the solar and open sun drying systems. The quality parameters of the various dried products like vitamins (A, C), polyphenol, and flavonoids were higher with the solar drying system. The application of solar energy in the herbal industry for the

production of medicinal herbs is not yet realized.

Do medicinal plants use solar drying?

Medicinal plants information and their usage in therapeutic purposes. Thin layer drying of leaves in solar drying is reviewed. Exergy analysis of the overall solar drying process is presented. Use of thermal energy storage in solar drying is reviewed and presented. Economic analysis for solar drying of herbs are assessed.

Does a PV plant have a potential for ecological restoration?

While this growth rate is limited, the maximum fractional growing season vegetation coverage increased from 33.6% to 57.9% during the same period (Figure 6), with the highest value observed in a PV plant adopting the M4 mode, indicating the substantial potential for ecological restoration in PV plants.

Can thermal energy storage be used in solar drying of herbs?

Use of thermal energy storage in solar drying is reviewed and presented. Economic analysis for solar drying of herbs are assessed. Health consciousness has been increasing gradually in the entire world during the last three decades. Naturally and artificially produced medicines are consumed by the people for curing short and long-term diseases.

Why should PV plants be installed in arid regions?

Furthermore, the installation of PV plants can alter the local microclimate, regulate the thermal balance in desert, reduce the amount of wind-blown sand, and contribute to the improvement of growth conditions for plants in arid regions (Chang et al., 2016).

What plants can be planted under a solar power plant?

Additionally, low drought-tolerant windbreak and sand-fixing plants like *Agriophyllum squarrosum*, *Medicago sativa*, and *Calligonum mongolicum*, etc., can be planted beneath the PV equipment to serve as barrier against wind and blown sand (Cui et al., 2017; Mai and Bai, 2023) (Figure 2B).

## There are photovoltaic panels on the ground and Chinese medicinal

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### The effect of photovoltaic panels on the microclimate and on the ...

On the other hand, Hassanien et al. (2018) reported a decrease of 1e3 C under the semitransparent mono-crystalline silicon PV panels, similar to the results in the present study.

### Growing Medicinal Chinese Herbs Organically , Dr. Cynthia

...

I am very interested to know more about the surging interest in domestically grown Chinese herbs. Locally sourced herbs would seem to be mutually beneficial for the practitioner and the ...



### With tech, farms can double up to produce both food ...

The electricity these generate powers a few hundred nearby homes. Under and around these panels are sprawling fields of the low, dense blueberry bushes. Lily Calderwood knows more about wild blueberries than ...



### Sustainable Herb Cultivation for Traditional Chinese Medicine

Humans have used plants for medicine for all recorded history (and most certainly earlier), harvesting botanicals from their bio-region or perhaps trading with neighboring peoples. Over

...



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