

**Espay Solar Energy S.L.**

# **Solar-powered constant temperature clothing**



## Overview

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This week, scientists from Nankai University took a step towards smart clothing that rapidly adjusts body temperature using only solar power. The team fashioned a flexible material that captures sunlight to store and transfer heat. A recent research article on Science highlights a groundbreaking development in the realm of intelligent thermoregulatory apparel—a self-sustaining, solar-powered garment designed to. But even the most technical garments—self-heating vests, Gore-Tex layers, or suits with built-in ice packs—have their limits. Most can either warm or cool the body—but not both—or require an external power source or a bulky battery pack. The proof-of-concept thermoregulatory clothing incorporates a flexible organic photovoltaic panel that powers bidirectional electrocaloric devices. China unveils solar-powered clothing that automatically regulates the wearer's body temperature.

## Solar-powered constant temperature clothing



### Solar-Powered 'Smart' Clothing Could Rapidly Heat or Cool Your Body

This week, scientists from Nankai University took a step towards smart clothing that rapidly adjusts body temperature using only solar power. The team fashioned a flexible material that

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### Self-sustaining personal all-day thermoregulatory clothing using only

We developed a flexible and sustainable personal thermoregulatory clothing system by integrating a flexible organic photovoltaic (OPV) module to directly acquire energy from sunlight and ...

### Home Energy Storage (Stackble system)



#### Product Introduction

- Scalable from 10kWh to 50kWh
- Self-Consumption Optimization
- Integrated with inverter to avoid the compatibility problem
- LFP battery, safest and long cycle life
- Stackable design, effortless installation
- Capable of High-Power Emergency Backup and Off-Grid Function

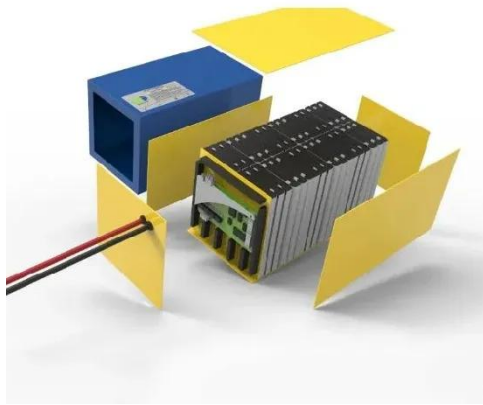


### Scientists make solar-powered clothing that works like personal air

Scientists have made solar-powered smart clothing that works like personal air conditioning, they say. The system uses a flexible solar cell and an electronic device, which together ...

## Solar-Powered Clothing for Hot and Cold Environments

A recent research article on Science highlights a groundbreaking development in the realm of intelligent thermoregulatory apparel--a self-sustaining, solar-powered garment designed to ...



## Scientists make solar-powered clothing system that works like

According to a team of scientists, they have made solar-powered smart clothing using flexible solar cells and an electronic device. Together, they create clothing that allows the body to ...

## Solar-Powered Clothing for Thermoregulation

Now, scientists in China have devised a solar-powered clothing system for keeping adventurous humans comfortable during these temperature cycles.



## Full-day, solar-powered, bidirectional thermoregulatory clothing ...

A team of engineers, materials scientists and chemists at Nankai University, in

China, has developed a microfiber-based meta-fabric that provides full-day thermoregulation of body temperature during ...

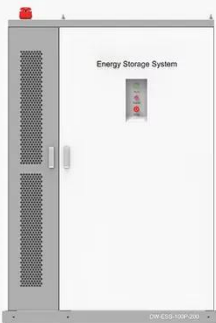


## Innovative solar-powered clothing offers dynamic temperature regulation

This new clothing technology offers substantial benefits in temperature regulation. On hot days, the device can cool the skin by 10.1 Kelvin (K), while at night or in dark conditions, it can ...



### ◆ PRODUCT INFORMATION ◆



-  BATTERY CAPACITY  
50kWh~500kWh
-  DC VOLTAGE RANGE  
400V~1000V
-  DEGREE OF PROTECTION  
IP54
-  OPERATING TEMPERATURE RANGE  
-10~50°C

## Solar-Powered Clothing Acts as Personal Air Conditioning

Chinese researchers have presented a novel idea for solar-powered apparel that can control the body temperature of the wearer. The idea, which was developed by Ziyuan Wang and ...

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