Wherever your projects are, we will be there.
### Turn Your Rooftop into a Photovoltaic Power Station

The national environmental protection movement continues to upgrade, and problems such as high resource consumption, high energy consumption, and serious pollution have become increasingly serious. The development of industrial and commercial rooftop integrated PV power generation has become an inevitable choice for enterprises to be energy-saving, emission-reducing, low-carbon and environmentally friendly.

PV power generation can optimize the energy consumption structure of enterprises, allowing enterprises to use clean energy so that the owners can enjoy the eight major benefits.

### Eight Major Benefits for Owners

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous benefits from PV power generation</td>
<td></td>
</tr>
<tr>
<td>Savings the cost and time of rooftop maintenance</td>
<td></td>
</tr>
<tr>
<td>Extending the rooftop life expectancy from 10 years to 25 years</td>
<td></td>
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<tr>
<td>Improving the roof thermal insulation</td>
<td></td>
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<tr>
<td>Increasing the investment income in electricity price by peak load shaving</td>
<td></td>
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<tr>
<td>Reducing pressure on the grid during peak periods</td>
<td></td>
</tr>
<tr>
<td>Becoming low-carbon &amp; environmentally friendly enterprise</td>
<td></td>
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<tr>
<td>Increasing social popularities and attentions by developing the green buildings</td>
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</tbody>
</table>
BIPV System Solution
Boosting the Transformation and Upgrading of Industrial and Commercial Rooftops

BIPV (Building Integrated PV) is a technology that integrates solar power generation products into buildings. It not only has the function of PV power generation, but also meets the basic functional requirements of buildings.

BIPV Rooftop Advantages

- Replace traditional rooftop for power generation and self-consuming
- Extend rooftop life expectancy up to 25 years
- High return on investment and continuous benefits
- Government strongly encourages energy-saving and emission-reduction
- Business recognition for low-carbon green building enterprises
BIPV System Advantages

Innovation Drives Green Buildings Development, Making it a Perfect Replacement for Traditional Rooftop

Compared with the BAPV distributed power station with panels on the color steel plate rooftop, the BIPV roof can be designed to cover the entire rooftop. The entire PV array has more capacity, higher power generation, and lower overall cost.

BIPV roof: fully paved rooftop, large installed capacity and beautiful appearance

BAPV roof: partially paved roof, small installed capacity and not good appearance

### DESCRIPTIONS

<table>
<thead>
<tr>
<th>DESCRIPTIONS</th>
<th>BIPV</th>
<th>BAPV</th>
<th>COLOR STEEL TILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel Load on Building</td>
<td>🏢</td>
<td>🏢</td>
<td>🏢</td>
</tr>
<tr>
<td>Withstand External Load Capacity</td>
<td>⬠内马尔</td>
<td>⬠内马尔</td>
<td>⬠内马尔</td>
</tr>
<tr>
<td>Initial Investment</td>
<td>$ $$$</td>
<td>$ $$$</td>
<td>$ $</td>
</tr>
<tr>
<td>Energy Yield</td>
<td>⬠内马尔</td>
<td>⬠内马尔</td>
<td>⬠内马尔</td>
</tr>
<tr>
<td>Lifecycle</td>
<td>25 years</td>
<td>10–15 years</td>
<td>10–15 years</td>
</tr>
<tr>
<td>Maintenance</td>
<td>√</td>
<td>√</td>
<td>×</td>
</tr>
</tbody>
</table>

### DESCRIPTIONS COLOR STEEL TILE

<table>
<thead>
<tr>
<th>DESCRIPTIONS</th>
<th>BIPV (10,000 m²)</th>
<th>BAPV (10,000 m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel structure plant infrastructure</td>
<td>Same</td>
<td>Same</td>
</tr>
<tr>
<td>PV power plant investment</td>
<td>Same</td>
<td>Same</td>
</tr>
<tr>
<td>Color steel roof construction costs</td>
<td>0</td>
<td>150,000 USD</td>
</tr>
<tr>
<td>25 years of maintenance fee</td>
<td>70,000 USD</td>
<td>70,000 USD</td>
</tr>
<tr>
<td>25 years of roof overhaul and renew fee</td>
<td>0</td>
<td>150,000 USD</td>
</tr>
<tr>
<td>Installation capacity</td>
<td>1.1–1.5MW</td>
<td>0.8–0.9MW</td>
</tr>
</tbody>
</table>

For 1 MW rooftop power plant, the installed capacity of BIPV is 30% more than BAPV, and the construction and maintenance cost can be saved at least 300,000 USD.

*Estimated data according to market*
Arctech Solar BIPV Solution

Independent R&D • Multiple patents • Industrial standards

Arctech Solar BIPV not only meets the design requirements of conventional buildings such as anti-leakage, anti-settling, anti-expansion, etc., but also has many other advantages such as high wind and snow loads, good lighting and ventilation, excellent heat preservation and heat insulation, strong shockproofing and waterproofing, and easy operation and maintenance in the later period.

BIPV System Features

1. Panels specification: panels with frame
2. Horizontal waterproofing: U-shaped waterproof groove
3. Longitudinal waterproofing: W-shaped water channel
4. Roof ridge maintenance channel: I-shaped parts and roof ridge maintenance plate
5. Ventilation and lighting: adapt to the integration of all ventilation combinations and lighting

Exclusive Patented Technology

A new type of combined rooftop PV system and its water guide plate patent

PV brackets for panels and PV system patent

R&D Advantages and Technical Characteristics

1. Water Tightness and Air Tightness Technology
2. Patented Anti-Seepage Water Guiding System
3. Patented Briquetting Technology
4. Cleaning System
5. Inspecting and Repairing System
6. Heat Preservation and Insulation, and Fire Protection
7. Operation and Maintenance System
8. Roof Pressure 0.8kn/m²
9. Withstand Level 18 Typhoons
10. Snow Load Resistance 5400Pa
Main Contents of PV Industry BIPV Standard

1. Steel Roof Truss Standard
2. BIPV System Design
3. Building Structure Design
4. BIPV System Installation
5. Electrical System Design
6. Grid Connection Standard
7. Project Acceptance Standard
8. System Operation and Maintenance Standard
9. Environmental Protection Specifications
10. Fire and Safety Specifications

Meet the safety performance of construction industry standards

Meet the requirements of rain-proof and anti-leakage of rooftop
Take PV panels drainage as the main, and horizontal and longitudinal water channel drainage as the supplement; The roof rainwater is effectively guided and discharged into the eaves gutter.

With vibration reduction and anti-expansion performance
The elastic fixation of the bracket can reduce the vibration of the building and prevent the thermal expansion and cold contraction of the material; The installation surface of the PV panels has a shock-absorbing belt, and there is a buffer between the PV panels to fully protect the panels.

Combine effectively with lighting and ventilation equipment

Quick installation, and easy operation and maintenance of PV power station

In 2015, Arctech Solar led and edited the Industry Standard of Fixed Brackets for Photovoltaic Power Stations
In 2017, as the only representative of a Chinese company to lead the formulation of the IEC Tracker Standard
In 2018, Arctech Solar and Tongji University co-edited PV Industry BIPV Standard
BIPV System Design

- PV Array
- Eaves Gutter Drainage
- Roof Ridge Maintenance Channel
- Downhill Style Ventilated Buildings Ventilation and Lighting Maintenance
BIPV Project Contracting and Process

- Project Consulting
- Solution Customization
- Investment Estimation
- On-site Construction
- Production Management
- Project Acceptance
- Operation and Maintenance Service
BIPV Projects

Jiangxi Weimei Ceramics: 40.9MW
- Project Address: Fengcheng City, Jiangxi
- Building Height: 11m rooftop
- Rooftop Features: Remove the old rooftop, and the roof slope is 18°. High difficulty in construction, no lighting and ventilation

Arctech Solar (Changzhou) 11 MW
- Rooftop Area: 78,000 m²

Risen (Jiangsu) 2.1 MW
- Rooftop Area: 15,000 m²

Beijing Benz Headquarters 1.2 MW
- Rooftop Area: 1000 m²

Marshal Ceramics 6.4 MW
- Rooftop Area: 42,000 m²

Jiaxing Science and Technology Park 1.1 MW
- Rooftop Area: 8000 m²
Founded in 2009, Arctech Solar (SSE-STAR: 688408) is one of the world's leading manufacturers and solution providers of solar tracking, racking and BIPV system with over 800 employees worldwide. It is headquartered in Kunshan, Jiangsu Province of China, with global business division and manufacturing bases in Shanghai and Changzhou respectively.

In the past decade, Arctech Solar has successfully set up overseas subsidiaries or sales and service centers in China, Japan, India, U.S., Spain, Australia, UAE, Mexico, Chile, Brazil and Vietnam. As of the end of 2019, it has cumulatively installed around 24 GW capacity and successfully executed approximately 900 projects in 24 countries.

Arctech Solar has been ranked amongst the top 5 tracker suppliers in the global PV market in the past 4 years, making it a reliable partner in the global PV tracking and racking industry. (Resource: IHS Markit and Mackenzie)
Development History

- Founded in 2009
- Entered solar structure industry
- Designed and produced tracking systems
- Entered overseas markets
- Established subsidiaries in Shanghai and Japan

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2020

- Entered solar structure industry
- Entered the Japan and UK markets
- Established subsidiaries in Shanghai and Japan

Data Source: IHS Markit and Wood Mackenzie
Arctech Solar’s production and manufacturing plants are located in Changzhou, Jiangsu province and Wuhu, Anhui Province. Among them, Changzhou plant covers nearly 190,000 square meters, with dozens of independently R&D and design production lines and one hot-dip galvanizing production line in line with environmental standards. With its integrated production and manufacturing, and a complete supporting system of industrial chain, Arctech Solar can deliver industry-leading quality products on time, and can quickly respond to customer needs.

As the world’s leading PV tracking system, fixed structure and BIPV system manufacturer and solution provider, Arctech Solar has been keeping product technology innovation as normal for a long time, and has always been committed to using efficient and reliable products and services to boost the generation revenue of PV power stations. As of July 2020, Arctech Solar’s R&D team has more than 100 people and has obtained more than 160 technical patents.