

ilum[®]意路姆

意大利 - 新能源工程技术

photovoltaic industrial roofs in China





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Ilum is an Italian professional company with more than 10 years of experience in photovoltaic solutions.

Ilum provides photovoltaic rooftop powerplants on industrial buildings in China.

Skills Illum's

Paperworks

Engineering

Costruction

Maintenance

Financial Modelling

Investment

Engineering & Paperwork

powerplant design, feasibility study, power yield production analysis, complete government authorization process management.

Construction & Maintenance

powerplant construction, management, control and supervision, powerplant maintenance services, yield compliance and performance guarantee.

Financial Modelling & Investment

powerplant financial model analysis, project financing support, investment.



Structure

Illum China

Illum China joins expertise in design and construction at **European standards** with **deep knowledge of Chinese market and regulation.**

Illum China: 4 partners:



Sisthema engineering
engineering, project design
and technical support



Solevento
powerplant construction and
commissioning



K3E
Italian engineering company in
Shanghai. 10 years of expertise
in Chinese technology market,
focus on renewable energies
since 2006



China Southern Power Grid
One of the 5 State-owned grid
company of China, provides
electricity to 230 Millions of
people and owns 190 000 km
of power transmission grid



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Ilum successfully developed a broad range of installations across Europe.

Ilum's portfolio includes **rooftop-mounted plants, photovoltaic power stations on ground and research of innovative PV installations.**

Ilum also provides stable operation and maintenance services for more than 30MW.



50





MW in Europe

China Southern Power Grid Illum's Partner in China



MW China

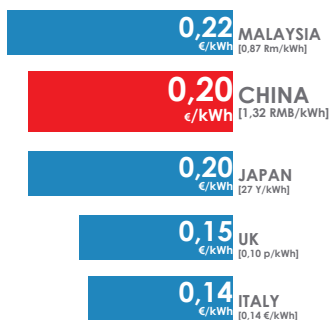
China Southern Power Grid is one of the **5 China state-owned grid companies**.

In order to **increase the use of renewable energies** in China, CSPG promotes, develops and facilitates the installation of **photovoltaic systems**.

In the mere 2015 China Southern Power Grid connected more than **150MW power plants on industrial roofs**.



Photovoltaic in China a new opportunity for foreign companies



China income for rooftop power plants is one of the biggest in the world

1,57 ^{up to} RMB income for every kWh produced by the plant

Stable and safe investment

5 years payback of your powerplant



Photovoltaic Law in China

According to the **chinese law** 发改价格 [2013] 1638号, every industrial roof PV plant is granted of several economic contribution.

National contribution of **0.42 RMB** for every kWh produced (duration: **20 years**).

Local additional contribution, based on the location, for every kWh generated (Example: Shanghai: **0.25 RMB/kWh** duration: **5 years**).

Electricity **savings** on regular bill: **0.90 RMB/kWh***.

*calculated for an average bill during daytime

Income for the electricity **sold** to the grid: **0.47 RMB/kWh** (in case of non-consumption).

Total income

The sum of all these contributions adds up to a total income between **0.89 RMB/kWh **** and **1.57 RMB/kWh *****.

This contribution means, **for a standard 10 000sqm roof**, a stable income of **1.5 Million RMB** per year, equal to **220 000 Euro**.

**in case local feed in tariff is over and the factory is temporary closed

*** with local feed in tariff in a regular working day

Rooftop of **10 000sqm**

a stable income of **1,5 Million RMB** per year

equal to **220 000€**

Net income based on roof size



3 000 sqm

ROOFTOP of 3000 sqm

MWp	0,3
MWh/year	346,8
RMB/year	454.180 ¥
€/year	66.791 €



10 000 sqm

ROOFTOP of 10 000 sqm

MWp	1
MWh/year	1.156
RMB/year	1.513.933 ¥
€/year	220.637 €



20 000 sqm

ROOFTOP of 20 000 sqm

MWp	2
MWh/year	2.312
RMB/year	3.027.866 ¥
€/year	445.274 €

solution **EPC**
Engineering Procurement Construction



YOU OWN
THE PLANT

Illum offers a turnkey photovoltaic solution for your factory.

Illum takes care of **authorization paperwork, design, construction and connection.**

Once your plant is connected, it will start producing energy. If you want, Illum can take care of it through our aftersale **operation and maintenance service.**

After just **3 months** of installation process you will enjoy:

Free solar energy for your factory activities

Steady cash flow **from** the Chinese **feed in tariff** (both national and local)

Steady cash flow **Income from the grid** for electricity sales

solution **PPA**
Power Purchase Agreement



If you are not interested in doing the investment, you can still have a plant on your roof, **llum China can do the investment.**

With llum power purchase agreement, the powerplant on your roof will be owned by llum, and **you will enjoy the energy** produced by the plant with a **10% discount** on grid's price.

llum China offers **a complete service for 25 years**, including operation and maintenance for free.

Without any expense, you will start **saving money on your monthly electricity bill** and immediately start to **add carbon-free value to your product.**



Ilum can provide an EPC service in China according to European technology standards.

Let's see how:

Authorization paperworks in China is made easy and efficient thanks to our cooperation with China Southern Power Grid. We are constantly updated on any change regarding regulation or grid policy and the process of connection to the Chinese grid is carried out by China Southern Power Grid directly.

Ilum China is **supported by the broad experience** of K3E team in choosing and purchasing PV components in China for European market.

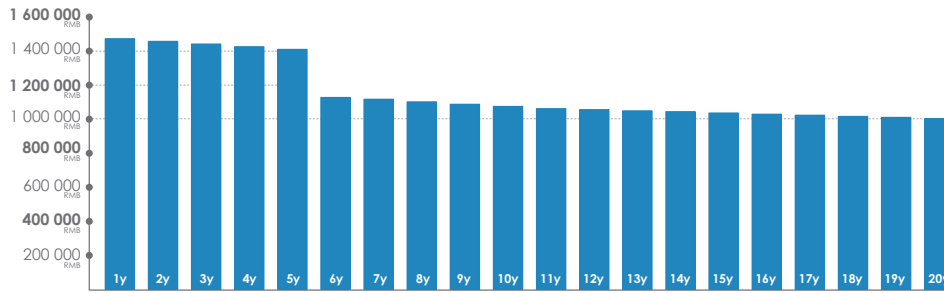
This guarantees the high quality of the result at a **fair price**.

Design of the plant is entirely conceived in Italian **Ilum headquarters**, with the **support of Sisthema Engineering** for all the necessary computations.

After **3 months** from the beginning of construction operations you will **start using your own energy** and **receive the feed in tariff from Chinese government to payback your investment and increase your company's income**.

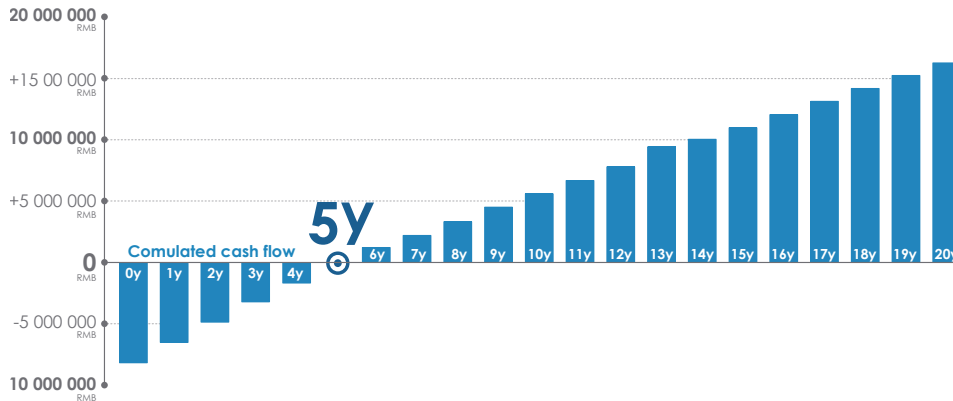
Simulation for 1 MWp plant

EBITDA



Installed capacity: 1 MWp
 Irradiation: 1400 kW/m²year
 Yield nominal: 1156 kWh/m²year
 [Shanghai]
 Powerplant cost: 7.500 Rmb/kWp + VAT

Cash Flow



FIT: 0.42 Rmb/kWh
 LOCAL FIT: 0.25 Rmb/kWh
 GRID PRICE: 0.47 Rmb/kWh
 ELECTRICITY PRICE (avg): 0.90 Rmb/kWh
 USAGE TIME: 8.30 a.m. / 17.30 p.m.
 SELF-CONSUMPTION RATIO: 90%
 POWER DEGRADATION: 1%/year

YEAR CASH FLOW Y1: 1.513.933 Rmb
 YEAR CASH FLOW Y20: 1.009.000 Rmb
 CUMULATED CASH FLOW Y20:
 16.154.000 Rmb
 IRR (full equity): 17.0 %

16-20% ROE

Return of equity, is the rate between income and investment
in the first 5 years, thanks to the local incentive, its value reaches 20%

ZERO INTERFERENCE

The plant is on the roof, it doesn't require additional space in your factory
and it doesn't interfere with your regular activities

20 years
stab



PC

365 DAYS NON-STOP

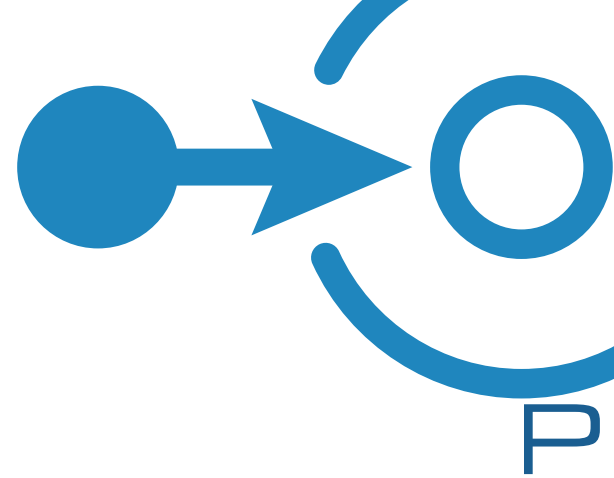
A photovoltaic powerplant has no holidays, it works with the light of every day, for the whole year

VOLATILITY ZERO

The feed in tariff is stable, no inter-dependence with oil price or with any other fluctuation of international financial markets



le income



Power Purchase Agreement is the smart way to **save on your electricity bill and go green without any costs.**

If your roof meets our standard requirements, **Ilum can make the investment** and provide you with a rooftop power plant.

Construction and connection process is fast, non invasive and is entirely arranged by Ilum without any interference with your daily work activity.
Operation and maintenance service are provided by Ilum constantly and for free.

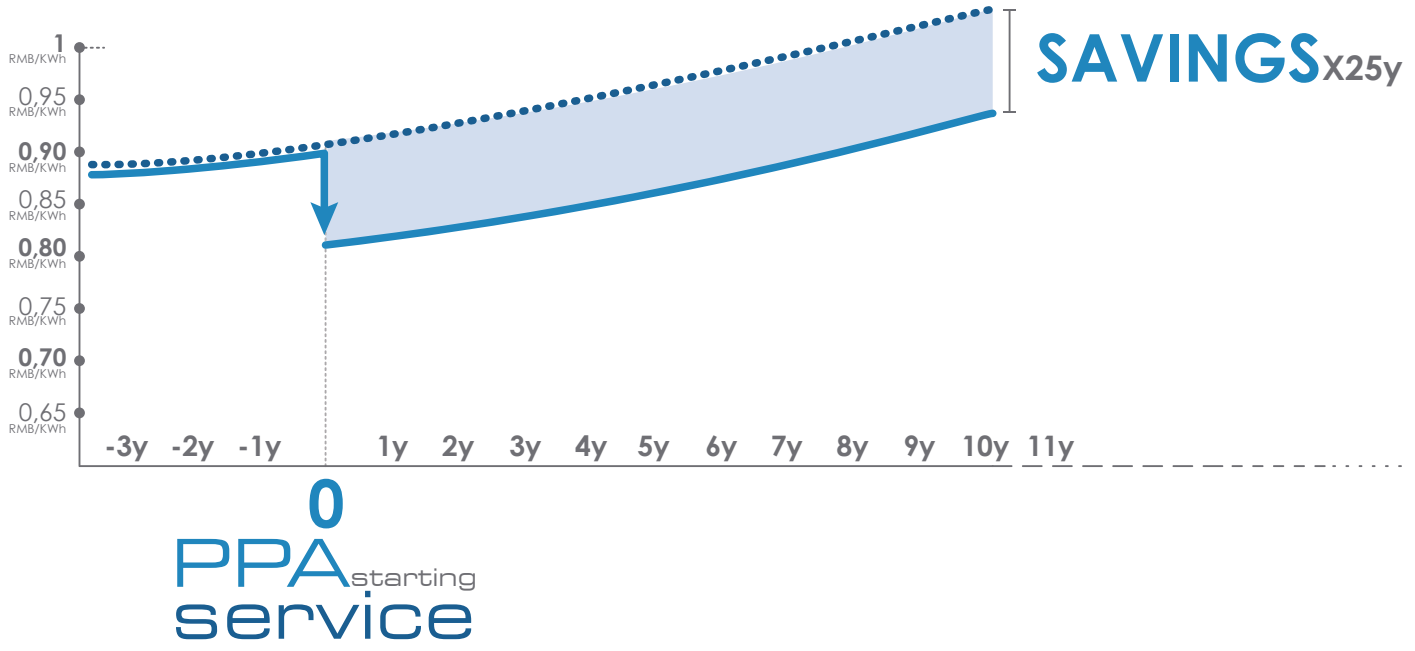
Subscribing a PPA immediately allows you to get 10% discount on your bill for 25years for all the green electricity produced by your roof.

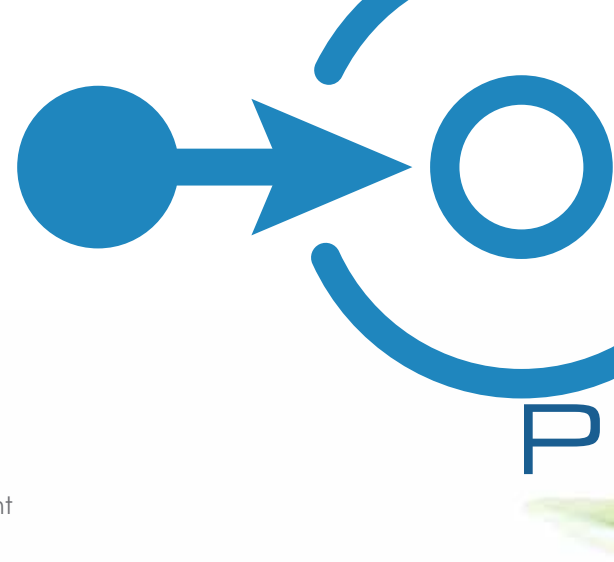
With PPA solution, Ilum will own the PV roof plant and will constantly take care of the maintenance to keep up generation efficiency along 25 years of powerplant lifetime.

If you need to **change location** for your activity there is **no problem**, you can **transfer the power purchase agreement to the next user of the building.**

When the 25 years are over **we will take care of the dismission** of the plant and **restore the roof to its original conditions.**

PPA Reduction of the bill





NO COSTS

You just let us use the surface of your roof, Ilum China makes the investment

ZERO INTERFERENCE

The plant is on the roof, it doesn't require additional space in your factory and it doesn't interfere with your regular daily activities

10%

di
o



PA

WORRIES NO

If you change location we can transfer the agreement to the next user
and after 25 years we remove the installation

MAINTENANCE FREE

illum constantly monitors the plant and takes care of all maintenance
operations in order to guarantee electricity production

count
n your bill



China FIT just started

ilum
Brings it on

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