

Solar Energy Investment Opportunities in Illinois, U.S.A.

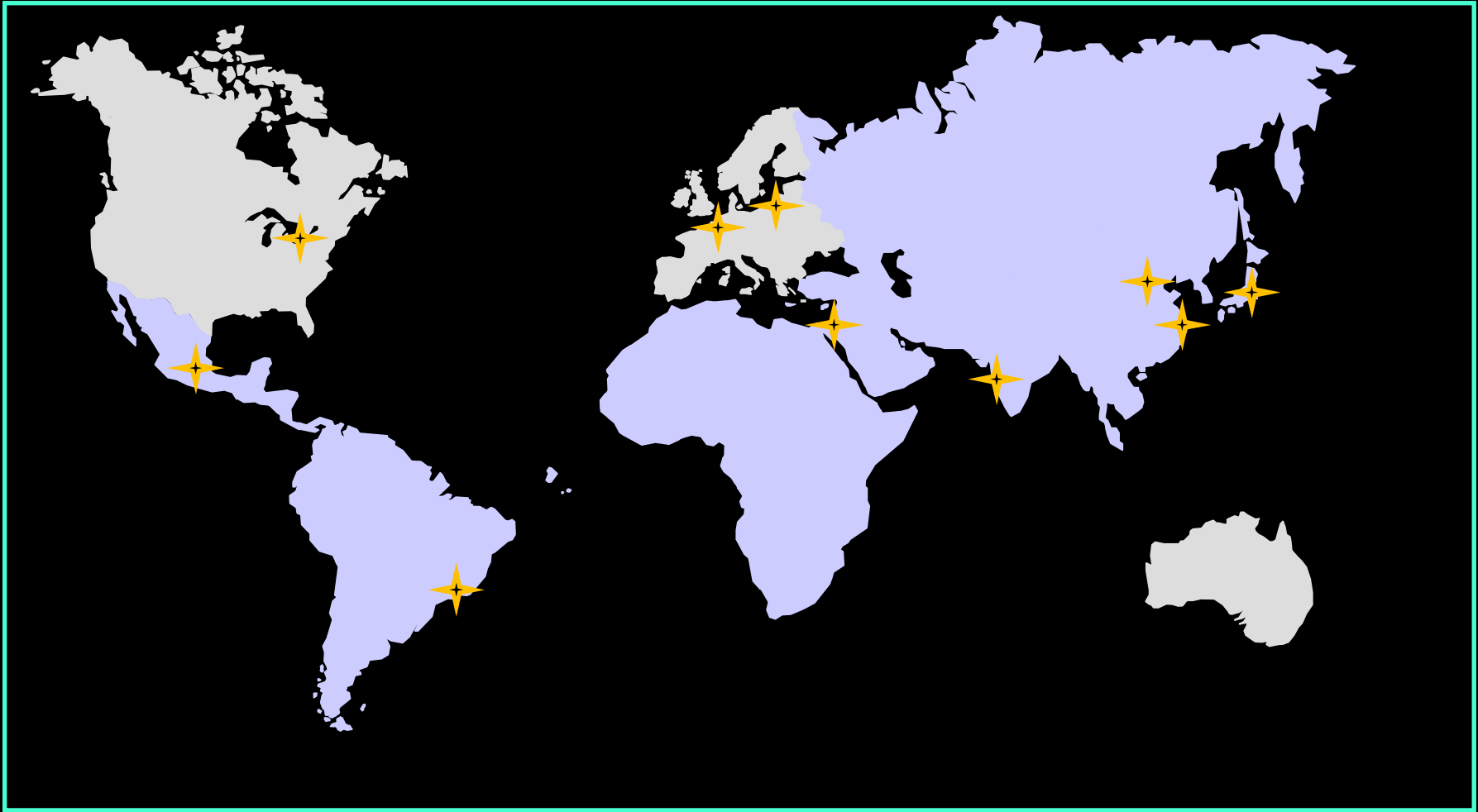
美國伊利諾州 太陽光電市場投資機會



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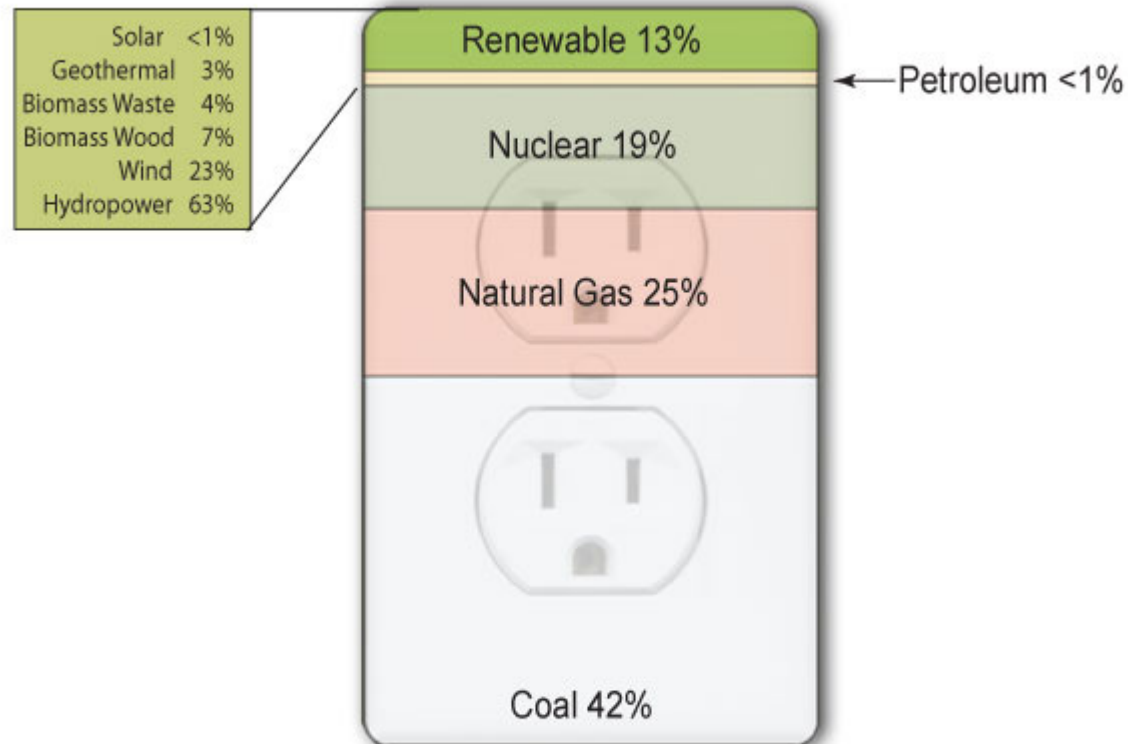
Hsinchu, Taiwan



Clean Energy Technology

- Renewable Energy (再生能源)
- Energy Efficiency (能源效益)
- Transportation (運輸)
- Clean Coal (清潔煤)
- Nuclear Energy (核能)

Sources of Electricity Generation, 2011



Note: Includes utility-scale generation only. Excludes most customer-sited generation, for example, residential and commercial rooftop solar installations

Source: U.S. Energy Information Administration, *Electric Power Monthly* (March 2012). Percentages based on Table 1.1, preliminary 2011 data.

US Renewable Energy Generation Growth (billion kWh) by Source

Year	All US Total	Renewable						Total	% of US Total
		Hydro	Wind	Wood	Bio other	Geo Thermal	Solar		
2007	4,156.7	247.5	34.5	39.0	16.5	14.6	0.612	352.7	8.49
2008	4,119.4	254.8	55.4	37.3	17.7	14.8	0.864	380.9	9.25
2009	3,950.3	273.4	73.9	36.1	18.4	15.0	0.891	417.7	10.57
2010	4,125.1	260.2	94.7	37.2	18.9	15.2	1.212	427.4	10.36
2011	4,105.7	325.1	119.7	16.9	19.8	16.7	1.814	520.1	12.67

Source: USDOE Energy Information Administration/Electric Power Annual Files

Illinois Governor's Act: 6% of Illinois new energy will be solar power by 2015. By 2025, 25% of the State's electricity will come from renewable.

Illinois Incentives

- **Solar and Wind Energy Rebate Program**

The focus of the Solar and Wind Energy Rebate Program, through the State's Renewable Energy Resources Program, is to encourage utilization of small-scale solar and wind energy systems in Illinois. \$12 million of funding is available in FY2011.

- **Community Solar and Wind Grant Program**

The focus of the Community Solar and Wind Grant Program is to support the development and implementation of distributed community-scale solar thermal, solar photovoltaic, and wind energy technologies in Illinois. The Illinois Department of Commerce & Economic Opportunity is soliciting applications through a competitive Request-for-Application process.

- **Renewable Energy Business Development Program**

The focus of the Renewable Energy Business Development Grant Program, through the RERP, is to support development or expansion of renewable energy production through the development of renewable energy businesses and component manufacturers. Approximately \$2 million of funding is available for this program for FY2012.

Renewable Energy Technical Potential

Type	Resource	Capacity (GW)	Potential (TWh)
Solar	Urban utility-scale PV	1,200	2,200
	Rural utility-scale PV	153,000	280,600
	Rooftop PV	664	800
	Concentrating solar power	38,000	116,100
	Total	192,922	399,810
Wind	Onshore wind power	11,000	32,700
	Offshore wind power	4,200	17,000
	Total	15,178	49,760
Bioenergy	Biomass/biofuel/methane	62	488
	Total	62	488
Geothermal	Hydrothermal power systems	38	300
	Enhanced geothermal systems	3,976	31,300
	Total	4,014	31,653
Hydro	Hydropower	60	259
	Total	60	259
TOTAL		212,236	481,970

Source: National Renewable Energy Laboratory 2012 Report

Technical Potential for Illinois

SOLAR						WIND					
Urban Utility Scale PV		Rural Utility Scale PV		Rooftop PV		Concentrating Solar Power (CSP)		Onshore Wind Power		Offshore Wind Power	
MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh
63,597	103,552	4,969,164	8,090,985	26,312	30,086	0	0	249,882	649,468	15,872	66,070

Bioenergy				Geothermal				Hydro		Electricity	Total use	
Biomass/Biofuel		Methane		Hydrothermal		Enhanced Geothermal		Hydropower		Total	2010	2010
MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	GWh	GWh	GWh
3,518	27,738	536	4,222	0	0	85,750	676,056	1,115	4,883	9,653,061	144,761	1,154,000

Source: National Renewable Energy Laboratory 2012 Report

Major Asian Green Technology

亞洲在伊利諾州的綠色能源投資項目

- **Illinois伊州Rockford市**

- Wanxiang Group (萬向集團)**

- Established U.S. Head Office in Elgin in 1994. Acquired 20 U.S. plants, No. of employees: 4,500. Established 40,000 > 160,000 SF Solar PV production facility in Rockford in 2010. 60 expanding to 240 workers. Investment: \$12.5 million. State incentive: \$2 million.

- 中國萬向集團，美國伊利諾州Elgin1994年成立，收購20家美國的工廠，營業額是13億美元，共有4,500員工。2010年在Rockford投資1千2百50萬美元建Solar PV廠，40,000>160,000 SF, 60>240工人。伊州政府提供了2百萬美元優惠資助計劃，包括經濟增長方案(EDGE), 培訓方案(ETIP) 及再生能源計劃(REM)。

- **Illinois伊州 Chicago 芝加哥市**

- Goldwind Science & Technology Co. (金風科技集團)**

- Opened U.S. Headquarters in Chicago 2010 with 10+ workers. 109.5 MW Wind Power Farm Project with total \$200 million investment in Shady Oaks, Illinois, announced in 2011.

- 金風科技集團2010年在芝加哥成立北美總部，2012年在伊州Shady Oaks 2億元的風力發電園開始投產。

Snapshot of a Crystalline Solar Power Panel Manufacturer in Illinois (1)

- Location: Rockford, Illinois
- Operation
 - 20 MW > 100 MW in years 2015/2016
 - First China solar panel productivity facility in the U.S.
 - Spire Corporation's capital equipment/turn-key production line.
- Type of Products
 - Mono-Silicon Panels/Poly-Silicon Panels
 - (electrical contractors, distribution-installer, partners/direct sales)
- Limited Guarantee
 - 5 years – Materials/Workmanship
 - 10 years / 25 years – Power Performance Warranty (90% < / 80% <)
- Examples of PV Projects
 - Warehouse building, 4 KW DC, Elgin, Illinois
 - Office building, 10KW DC, Wheeling, Illinois
 - Government building, 100 KW DC, Medina, Minnesota
 - Solar Farm, 3 Megawatt, Rockford, Illinois





Illinois: An Introduction

伊利諾州簡介

- Population: 12.8 Million – 5th in the U.S. (2010 Census).
人口：一仟二百萬 (2010年)美國 第五大人口州
- Gross State Product: 670 billion (2011)
2011州年生總值 6仟7百億萬美元
- Top #19 Economy in the world if Illinois is a country (larger than Switzerland, Belgium, Saudi Arabia, Argentina, Thailand, Malaysia ...)
世界19大經濟體系 (高於瑞士、比利時、沙地阿拉伯、阿根廷、泰國、馬來西亞...)
- Major Industries: Machinery, Food Processing, Electrical Equipment, Chemical Products, Fabricated Products, Transportation Equipment, Coal, Agriculture & Financial Services.
主要行業：機械、食品加工、電機、化工產品、交通工具、煤、農業及金融業。

Major Companies Headquartered in Illinois

在伊利諾州的主要大公司



MITTAL



ABN-AMRO



FitchRatings
KNOW YOUR RISK



BOMBARDIER

SIEMENS

NEC



Panasonic®



"State Focused-Globally Connected"

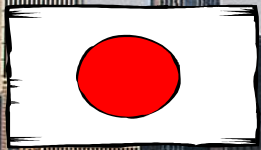
Foreign Direct Investment in Illinois

外國投資在中國

Top 5 Countries with Locations in Illinois
首五個在伊利諾州投資最大的國家



United Kingdom
英國



Japan
日本



Canada
加拿大



Netherlands
荷蘭



Germany
德國

➤ Illinois ranks #1 in the Midwest for foreign investment.

伊利諾州是美國中西部最多投資的州份。

➤ Illinois has attracted over 1,600 foreign firms establishing 6,416 locations.

1,600 家外國企業在伊州成立
6,416 個業務據點。

➤ These firms employ over 323,362 Illinois citizens.

外企聘用超過323,362名伊州居民工作。

A Global Gateway 往世界的大門

- ▶ Twelve daily non-stops to China, Korea & Japan.
每天有12班直航班機由伊利諾州到中國、韓國及日本。
- ▶ Within a 4-hour flight of all major North American destinations
– 134 nonstop domestic routes.
整個美國市場離開伊利諾州最多只有四個小時飛行時間的距離
– 134直航航綫。
- ▶ Fly nonstop to 46 international business capitals.
每天有46班直航機往全球各地的金融中心。
- ▶ Three International Airports (O'Hare, Midway and Rockford). O'Hare is one of the world's busiest, Midway is one of the fastest growing in the continent, Chicago-Rockford is the 2nd fastest growing air cargo airport in the U.S., home to 2nd largest UPS hub in the U.S.
伊利諾州擁有三個國際機場。O'Hare 是全球最繁忙機場之一，美 中機場是發展最快的機場之一，芝加哥Rockford機場也是全美發展最快的機場之一，亦是UPS在美國第二大運作站。

Illinois: Transportation Hub and Distribution Capital of North America

伊利諾州: 北美的交通中樞及分銷中心



Line width denotes rail traffic volume

Access to North American Market

進入北美市場的通道

- 42% of North American consumers are less than two days away.
42% 北美消費者居住在少於二天的車距內。
- 29% of North American industry is within one day's truck delivery.
29% 北美工業都在一天運車距內。
- #1 intermodal container handler in Western Hemisphere. World's #5 after Hong Kong, Singapore, Shanghai & Shenzhen.
西半球最大的聯運集裝箱港口。全球排行第五，僅次於香港、新加坡、上海及深圳。



Illinois' corporate tax rates are lower than many of its competitors in the region and country

Corporate tax rates

Midwest

- Indiana – 8.5%
- Wisconsin – 7.9%
- **Illinois – 7.0%**
- Missouri – 6.25%
- Michigan – 6.25%
- Kentucky – 4.6%

Other states

- Indiana – 8.5%
- Wisconsin – 7.9%
- **Illinois – 7.0%**
- Missouri – 6.25%
- Michigan – 6.25%
- Kentucky – 4.6%

- Despite raising taxes to reduce debt, Illinois remains competitive with states in the Midwest and across the country
- Tax rate will revert to 5.15% after 2015

Effective Tax rates on New investment

State	Tax rate	National rank
• U.S. Median	• 7.3%	• N/A
• Michigan	• 7.2%	• 24
• Missouri	• 7.1%	• 22
• Indiana	• 6.8%	• 19
• Illinois	• 4.6%	• 5
• Wisconsin	• 4.5%	• 4

- Effective tax rate on new investment accounts for all deductions and credits offered by the state.
- Illinois' effective tax rate on **new investment is in the 5th lowest in the country.**



Illinois: Your Competitive Advantage

U.S. Leadership by Sector

伊利諾州: 有競爭力的優勢 - 美國不同業的領導者

- #1 Industrial Market . 第一大工業市場
- #1 Future Securities Market . 第一大期貨市場
- #1 in business services employment. 第一大商業服務業市場
- #1 in high technology workforce: 347,100 in high-tech and 277,400 in I-tech.
擁有最多科技人員(347,100)及電訊技術人員(277,400)
- #1 University (Chicago) in Nobel Prize Winners: 79
芝加哥擁有最多諾貝爾獎得主: 79位

Business Development Incentives

商業發展的優惠政策

- **EDGE Tax Credit Program** 經濟增長方案(免稅減稅)
- **Employer Investment Training Grants** 僱主投資培訓方案
- **High Impact Business Program** 高影響力企業方案
- **Business Development Grant** 商業發展方案
- **Smart Energy Design Assistance Center (SEDAC)**
- **Energy Efficient Grant** 能源效益方案
- **Enterprise Zones** 企業區方案

Major Foreign Investment Projects in Illinois

各國在伊利諾州的投資項目

➤ Japan Takeda Pharmaceuticals (日本 Takeda 制藥)

Established North America Headquarters, 500 jobs created, 650 jobs retained and \$117 million capital investment by the company to build their corporate campus in Deerfield, Illinois.

建立北美總部，投資1千7百萬美元，增僱500人，舊人650。美國伊利諾州政府提供1千5百30萬美元優惠資助計劃，包括1千萬美元公司所得稅減免，1百萬美元直接資助，280萬美元水電稅減免及70萬美元員工培訓資助。

➤ Europe Mittal Steel Company (歐洲 Mittal 鋼鐵公司)

Established North America Headquarters, invested \$16,000,000 in capital and employed 212 staff. The State of Illinois provided \$7,459,000 incentives including \$6.3 million in EDGE Corporate tax credits, \$1 in Large Business Grants and \$159,000 in Employer Training Grants (ETIP).

建立北美總部，投資1千6百萬美元聘請212員工。美國伊利諾州政府提供7百45萬9千美元資助優惠計劃，包括6百30萬美元公司所得稅務減免，1百萬美元直接資助及1百59萬美元員工培訓資助。

A panoramic view of the Chicago skyline at sunset. The Willis Tower is the central focus, with its two antennas visible against the blue and orange sky. The city's buildings are reflected in the water of Lake Michigan in the foreground. The overall scene is a mix of modern and classic architecture.

Thank you!
謝謝!