

SEIA



NYRPS: Capturing Solar Value

Glenn Hamer, Executive Director

SEIA: 1616 H Street NW, Suite 800 (202) 628 – 7745 (p)

(202) 628-7475 (f) <http://www.seia.org>

Photovoltaics

Similar to microchip technology

Converts sunlight directly to electricity

Solid – state electronic device - “electric glass”



Long Island Power Authority –
<http://www.lipower.org>



Solar Hot Water

Heats water for residential or commercial use

High Efficiency, Low Cost (< \$.05 / kWh equiv.)

Displaces use of heating oil, natural gas, or electricity

Emplacement on existing facilities (rooftops, awnings)

- No habitat protection or “view shed” concerns
- Rapid installation w/o EIS
- Lower NIMBY sentiment

Clean Manufacturing Process

- Similar to microelectronics manufacturing

Recyclable, Recycled, Durable Lifetime Devices

Emissions – Free

- Solar water heating can displace emissions from small home combustion sources, home heating oil.

Peaking

- Solar technologies’ output peaks at or near the midday demand peak.
- Therefore displaces the dirtiest “peaker” power sources

Destressing Grid in load pockets

- Rapid installation
- “Point of Use” generation
- No additional transmission capacity required; frees capacity
- Peaking Capacity.

Fuelless Generation

- Lowers Price Volatility
- Increases Energy & Economic Self – Reliance

Predictable Intermittency

- Ultra-High-Reliability Systems
- Predictable Weather and Darkness Outages
 - Mitigated by dispersion of systems

Uninterruptible Power Systems

- Public Facilities



SMUD – Substation Support



US Coast Guard – Boston, MA



City of Vallejo PD

Energy Money Stays Domestic

In-state
In the US

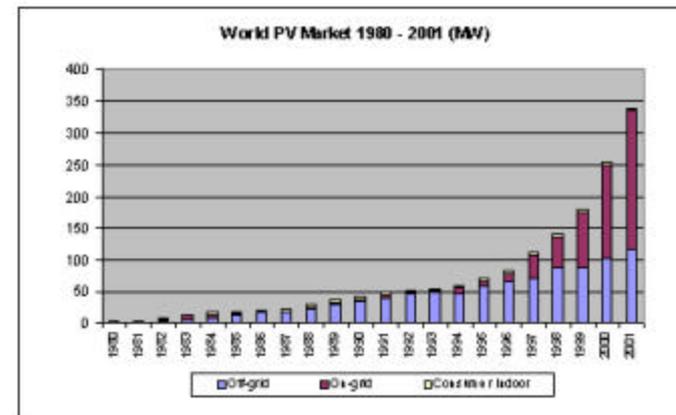
Labor Intensive Technology

NY manufacturing “core competencies”
High Technology
Rapid Growth
Manufacturer Locations

Stable, Continuous Project Flow

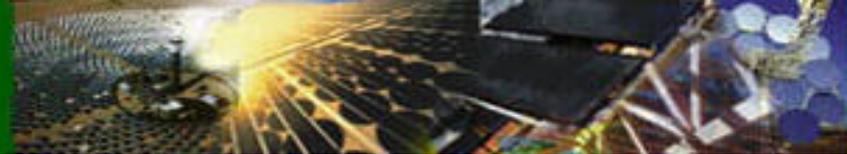
Universally Applicable

Urban or Rural Areas
Known resource



World PV manufacturing Growth 1980 - 2001

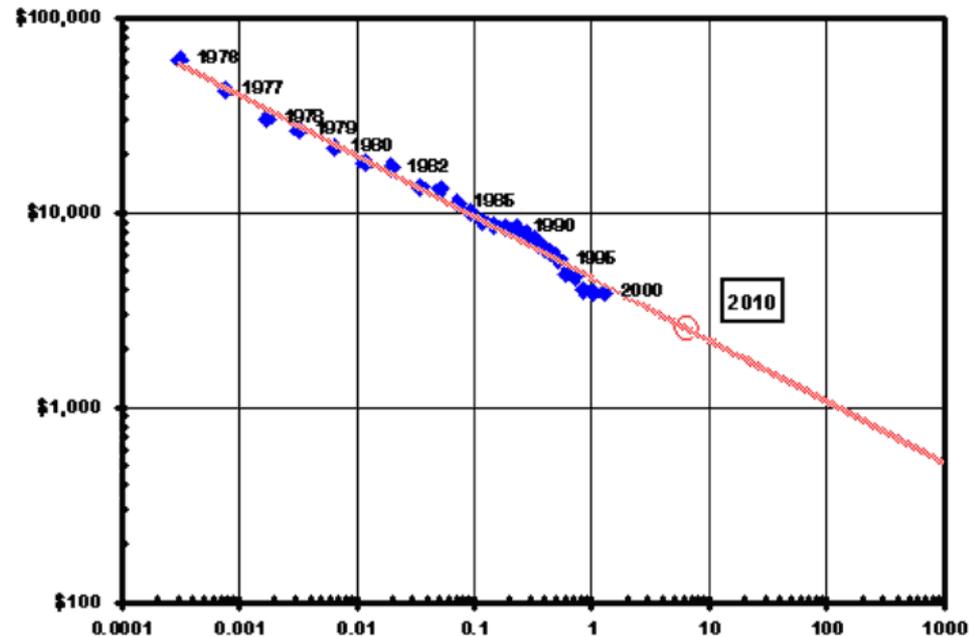




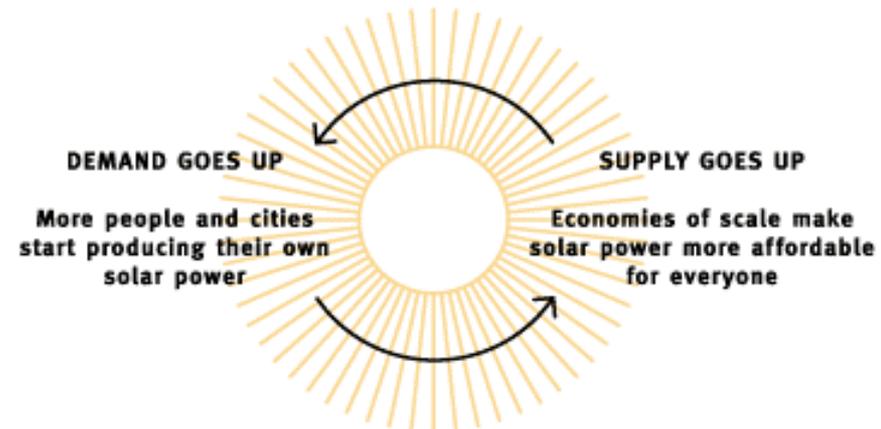
Technology R & D
+
Volume Sales
=
Marked, Continual
Price Decrease
(photovoltaics.)

Less than 1/10 of 1975
Prices...

...prices not comparable
with central station
power



Source: SEIA



<http://www.smallisprofitable.org>

Hard empirical justification and accounting methods for 207 previously unaccounted – for benefits of small and distributed generation.



Busbar cost is not and cannot be the sole metric for measuring the value of electricity or of RPS compliance.

Photovoltaics – Major multinational manufacturers with quality reputations. Output verified by national laboratories.

Solid – State Electronics with 20 year+ manufacturers' warranties.

UL and IEEE standards

Solar Hot Water

- Evolved from 1970's technology
- Output and quality certified by neutral third-party standards organization - the SRCC.





NY's Solar Resources

National Center for Photovoltaics'
PVWATT Calculator, identical collector
specifications, yearly production and savings:

Albany, NY:

5856 kWh,

\$ 796.42

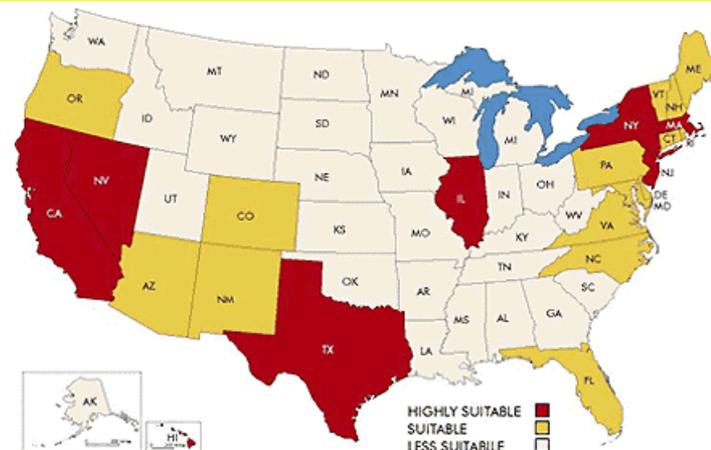
Los Angeles, CA:

7410 kWh,

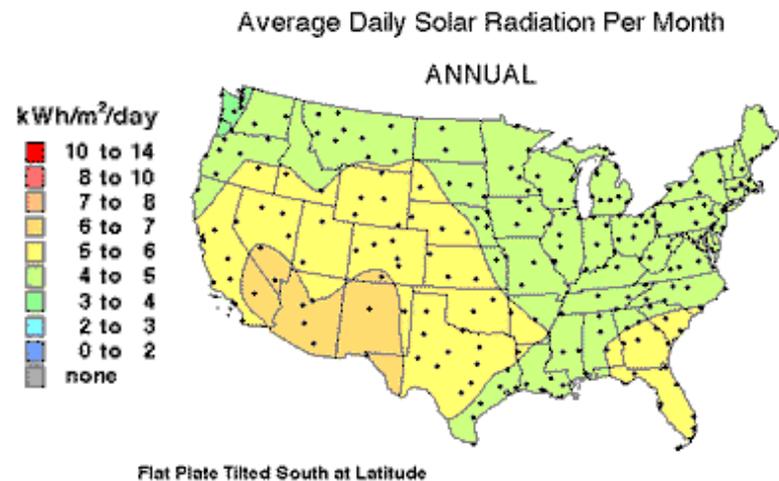
\$ 763.23

New York's yearlong solar availability is more than 80% that of California, as pre-established by weather and satellite data.

Essentially all theoretical solar sites could be realized as uncontroversial installations.



PowerLight Corporation Solar Site Map



Flat Plate Tilted South at Latitude



The right to Interconnect and Net Meter is a **REQUIREMENT** to realize distributed generation's full potential.

- Cuts costs by 1/3 or more
- Allows market participation
- Encourages sales and manufacturing activity.
- Single greatest barrier to solar in New York.



Sharp Solar – Actual Picture - Japan

AT&T Chairman John Debutts: “We cannot live with the deterioration of network performance that would be the inevitable consequence of ‘certification’ and the proliferation of customer-provided terminals that would ensue from it.” (attempting to retain AT&T’s hold on all retail phone handset sales.)

Photovoltaics market in the US grew 60% last year

- Almost all in California
- Grid-Connected Market
 - CA Large Commercial Installations up 1000%

Japan

- ca. 150,000 installed systems; total 40,000 solar systems installed FY2002.

Germany

- ca. 20,000 systems installed per year on a base of 100,000

NY Market disproportionately small

- ... good solar resources
- ... large population, high electrical demand
- ... supportive population
- ... why?

Contract Length

- Participants in the RPS market must be *explicitly* able to trade RECs and/or energy in advance and via long-term contracts if desired.

Vesting

- The owner of the generation must own the RECs and/or energy until such time as they explicitly choose to transfer ownership.

State Experiences:

A “flat” RPS will deploy very little solar.

- **Failure to capture unique distributed-specific values.**
- **Failure to capture unique solar-specific values**
- **Will exclude growing technology and manufacturing from the state.**

Mechanisms for capture enacted or proposed:

- **Solar Band**

(AZ 50 – 60% of RPS, NV 5%, proposed in NM, NJ)

- **Buydown Program (CA, NJ, NYSERDA, others)**
- **Distributed Band with Solar Multiplier**

(US Senate – passed energy bill had 2x, CO 2x, MD 2x, NM 3x, UT, AZ 1.5)