Solar Power 101

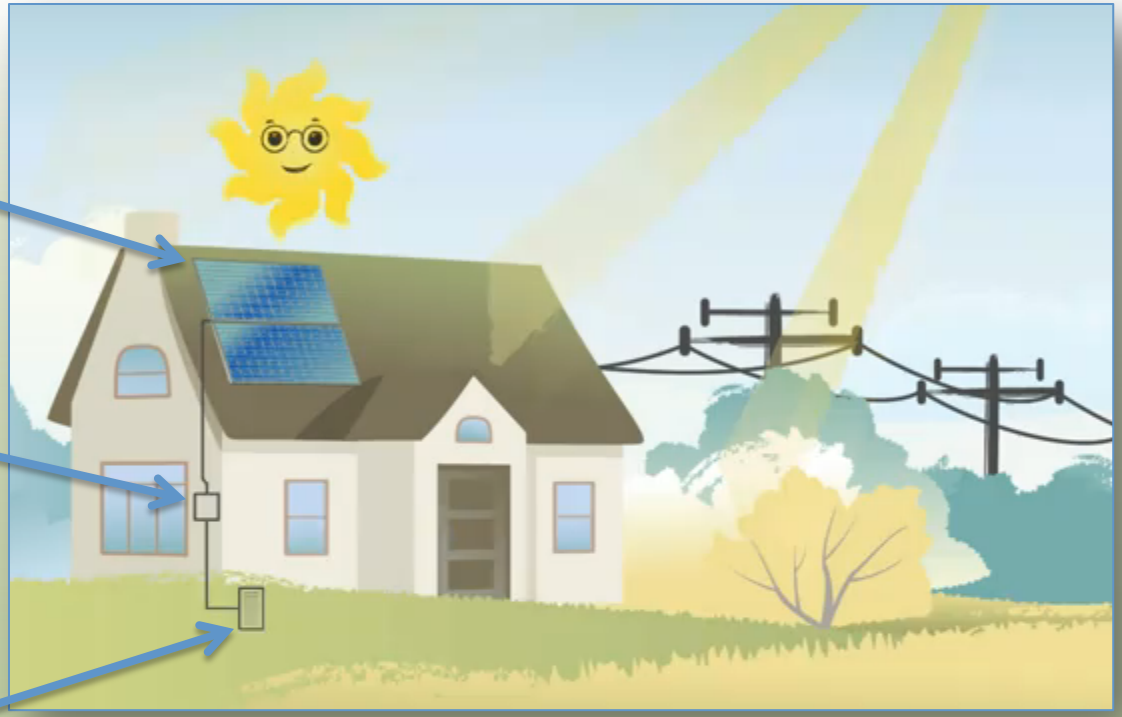
- How Solar Power Works
- Identifying A Good Site
- Why Solar Power
- What it Looks Like

How Solar Power Works

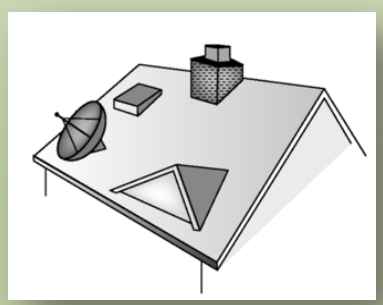
Sunlight is converted to DC Electricity

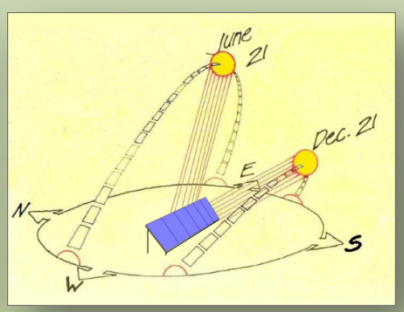
DC Electricity is converted to AC Electricity

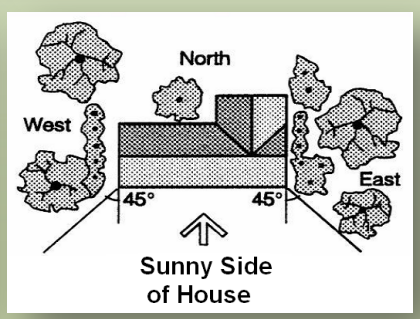
AC Electricity is connected to your electric panel



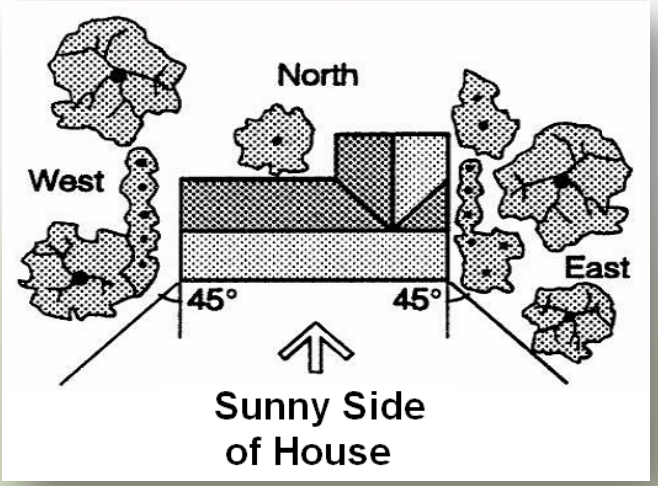
1. Roof space (≥400 Sq. Ft for PV, 100 Sq Ft for Hot Water.)
2. The roof or array of panels faces mostly south (SE to SW)
3. The tilt angle is between 10 and 50 degrees
4. No shading from 9 AM to 3 PM







Site Considerations



Site Condition	Solution
Old Roof	Replace the Roof
Shade from Trees	Trim/Remove Trees
Limited Roof Space	Ground Mounted System

Solar Benefits to Your Family

- Lower your electric bills for 30+ years
- Reduce your home's operating cost, increase value

Solar Benefits to Your Community

- Add clean power to the grid
- Improve the environment
- Raise awareness of clean, affordable electricity
- Support the local clean-energy economy

In one year, a 3kw solar power system…

- Could power a 42” TV for 720 hours
- Could power a compact fluorescent light bulb for 480,000 hours
- Replaces 5,517 pounds of CO_2

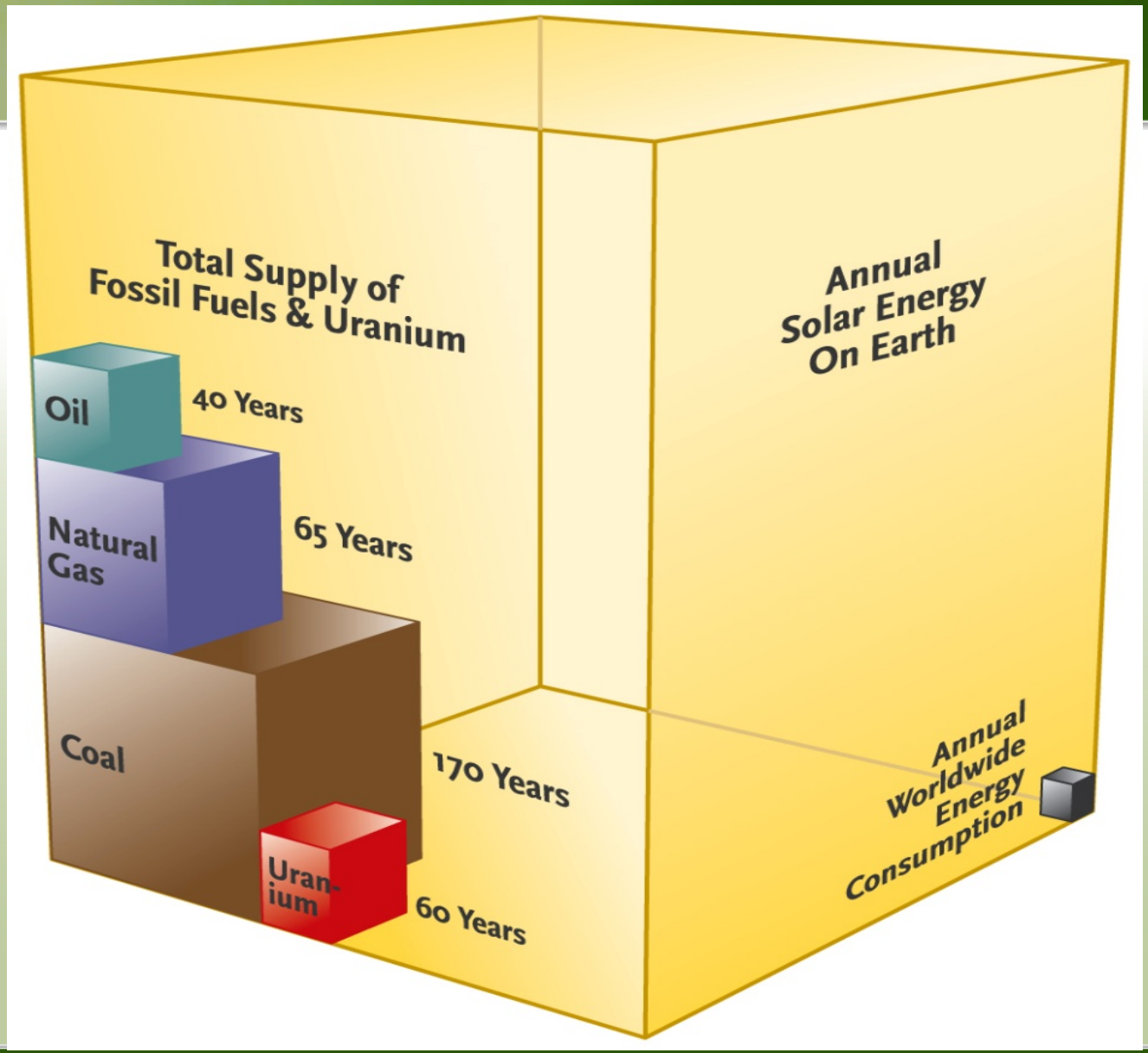

System Overview
groSolar
Conditions
74° Partly Cloudy
Sunlight Energy
894 w/m²
Calm Wind
5 mph SW
Conditions tomorrow predicted to be similar.
Forecast
PV Pwr In
1514 Watts
PV array performance is within historical norms for the time of day, season, and weather.
Full Chart
Inv Pwr Out
1229 Watts
Volts
Amps
Freq.
Full Chart
Utility Pwr
109 Watts
Currently using slightly less utility power than this time yesterday (12 watts less).
Full Chart
Demand
1338 Watts
Total consumption is slightly down today vs this time yesterday (135 watts less).
Full Chart
Total Power Today
2500 kWH
Total Carbon Saved
825 lbs
Total Saved Equiv
19 Trees
Total Saved Equiv
3,902 mi

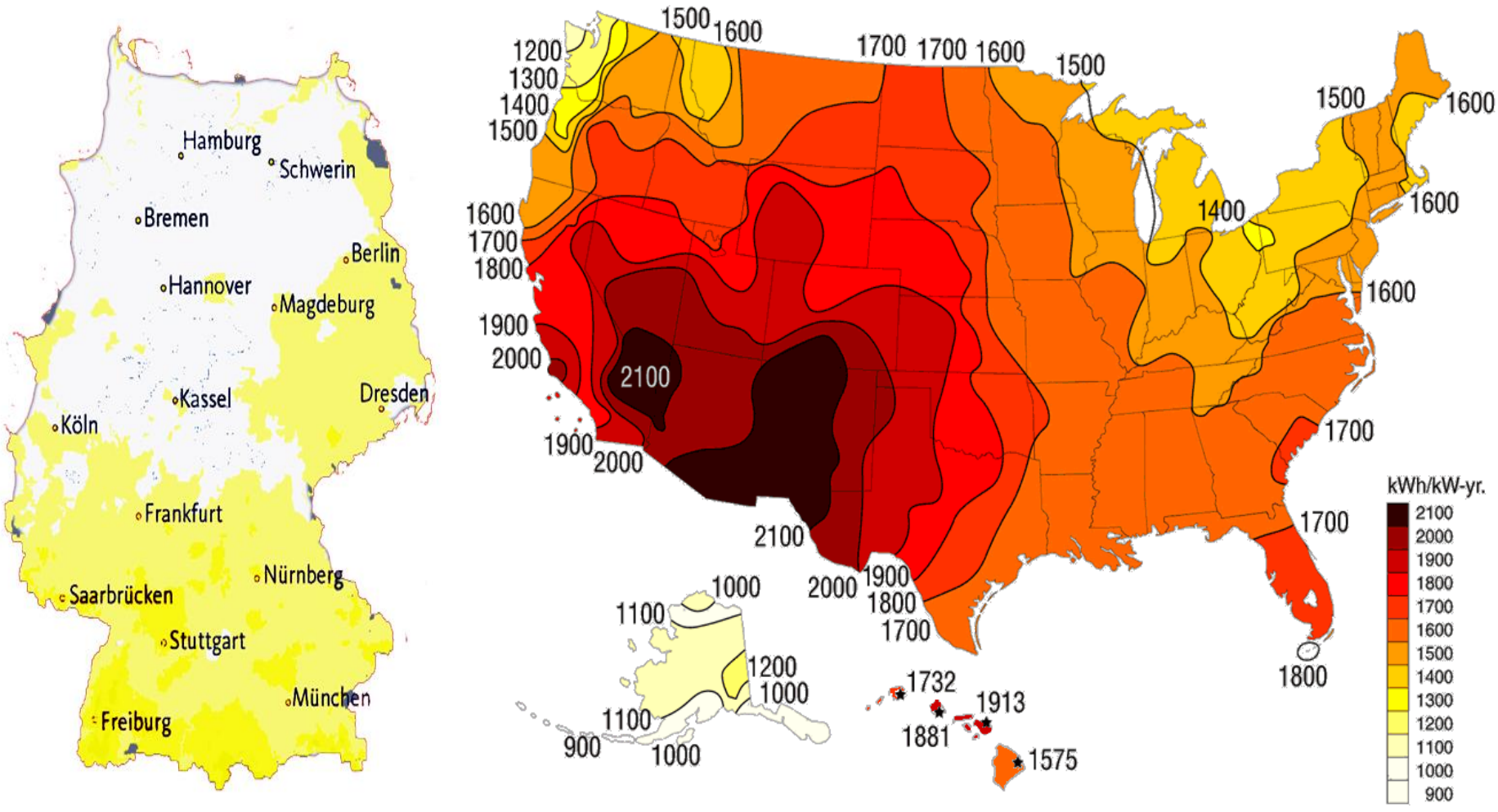
Solar Economics

- Outright Purchase
- Solar Financing Offering Low Upfront Costs
- Stabilized Electricity Rates
- Save Thousands with Rebates and Tax Credits

Vermont Solar Economics

Residental PV Watt Capacity	3840
# of 240-watt panels	16
Average KWH/yr in Vt with ideal site	4,608
Price before incentives at $5.50/watt	$21, 120
Vt CEDF Rebate at $.75/watt	$2,880
Fed Tax Credit 30%	$5,472
Net Cost	$12,768
25-year Power-bill Reductions	$33,000+
Effective cost per KWH from solar	**$0.12**


Total Supply of
Fossil Fuels & Uranium
Oil
40 Years
Natural
Gas
65 Years
Coal
170 Years
Uran-
ium
60 Years
Annual
Solar Energy
On Earth
Annual
Worldwide
Energy
Consumption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Schwerin
Bremen
Berlin
Hannover
Magdeburg
Kassel
Dresden
Köln
Frankfurt
Nürnberg
Saarbrücken
Stuttgart
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1913
1881
1575
kWh/kW-yr.
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900

Little to No Maintenance

- No moving parts
- 25 year power production warranty
- 10 year installation warranty
- Extremely durable
- Covered by homeowner’s insurance

Step One: 10 Minute Phone Call

Installer needs to know…

- Current Electric Usage
- Location of potential shade obstructions
- Roof type, budget, and orientation

Step Two: Home Solar Evaluation

- Two to three hours
- Measurements and photos
- Full shading analysis

Proposal

- Several options
- Scope of work
- Next Steps

Step Three: Installation

A Word About Subsidies