



CLEAN ENERGY INVESTMENT ACCELERATOR

Sector Wide Advancement Toolkit 2 Attachment: PVWattsTool User Walkthrough



WORLD
RESOURCES
INSTITUTE



Overview of Steps

1. Go to PVWatts Website
2. Enter geographic coordinates of site
3. Check that solar resource data is relatively close to the site
4. Enter PV characteristics
5. Record monthly and annual PV system output projections

1. Go to PVWatts Website

Go to <https://pvwatts.nrel.gov/index.php>



The screenshot shows the PVWatts Calculator website. At the top, there is a header with the "PVWatts® Calculator" title on the left and the "NREL NATIONAL RENEWABLE ENERGY LABORATORY" logo on the right. Below the header is a dark blue navigation bar containing a "Get Started:" section with a text input field for "Enter a Home or Business Address" and a "GO »" button. To the right of the input field are links for "English", "Español", "HELP", and "FEEDBACK". The main content area features a large image of solar panels under a blue sky. On the left side of this area is an orange icon of a solar panel array. To the right of the icon is the text "NREL's PVWatts® Calculator" followed by a description: "Estimates the energy production and cost of energy of grid-connected photovoltaic (PV) energy systems throughout the world. It allows homeowners, small building owners, installers and manufacturers to easily develop estimates of the performance of potential PV installations." In the bottom right corner of the main content area, there is a "Follow @PVWatts" button and a row of social media icons for Facebook, Twitter, LinkedIn, Email, and a plus sign for more options.

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy,
Operated by the Alliance for Sustainable Energy, LLC.

PVWatts® is a registered trademark by Alliance for Sustainable Energy, LLC in Golden, CO, 80401.

Version 6.2.4

2. Enter address of site

Enter address into address bar at top, then click “Go”

PVWatts[®] Calculator

English
Español

HELP FEEDBACK

Ho Chi Minh City **GO »**

NREL's PVWatts[®] Calculator

Estimates the energy production and cost of energy of grid-connected photovoltaic (PV) energy systems throughout the world. It allows homeowners, small building owners, installers and manufacturers to easily develop estimates of the performance of potential PV installations.

Follow @PVWatts

f t in +

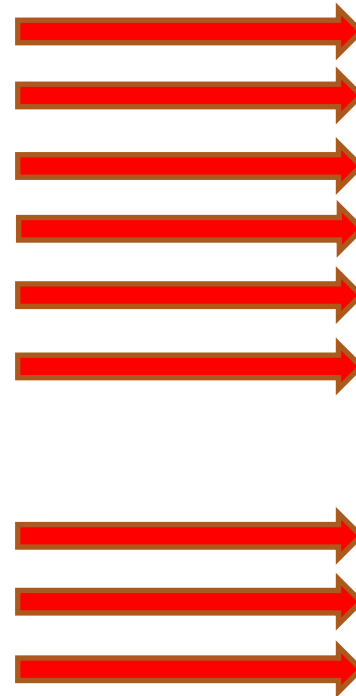
3. Check that solar resource data is relatively close to the site

- Check that the solar resource data is not too far from the site (left arrow).
- Then click the orange arrow (right arrow) to enter the PV system info

The screenshot shows a web interface with three tabs: RESOURCE DATA, SYSTEM INFO, and RESULTS. The 'RESOURCE DATA' tab is active, displaying 'SOLAR RESOURCE DATA'. Below the title, there is a text block explaining that the latitude and longitude of the solar resource data site are shown, along with the distance between the user's location and the center of the site grid cell. A red arrow points to the '0.9 mi' distance value. Below this, a box labeled 'Solar resource data site' contains the coordinates 'Lat, Lon: 10.77, 106.7'. To the right of the interface, an orange arrow points to the 'SYSTEM INFO' tab, with a red arrow pointing to it from the right side of the image. Below the text, there is a 'Resource Data Map' section with a map showing a blue rectangle indicating the NREL NSRDB grid cell for the location. A legend for 'Legacy Data Options' is visible on the map, with 'NREL International' selected. A left-pointing arrow is on the far left of the interface, and a right-pointing arrow is on the far right.

4. Enter PV characteristics

- Enter information or select options for the PV system info (left 9 arrows)
- Ignore the “Retail Electricity Rate” section for the purposes of the technical analysis
- Click orange arrow to view results (right arrow)



SYSTEM INFO

Modify the inputs below to run the simulation.

DC System Size (kW):	4	i
Module Type:	Standard	i
Array Type:	Fixed (open rack)	i
System Losses (%):	14.08	i Loss Calculator
Tilt (deg):	20	i
Azimuth (deg):	180	i

Advanced Parameters

DC to AC Size Ratio:	1.2	i
Inverter Efficiency (%):	96	i
Ground Coverage Ratio:	0.4	i

RETAIL ELECTRICITY RATE

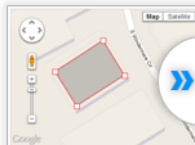
To automatically download an average annual retail electricity rate for your location, choose a rate type (residential or commercial). You can change the rate to use a different value by typing a different number.


Rate Type:	Residential	i
Rate (\$/kWh):	No Default – Enter Value	i

RESTORE DEFAULTS


Draw Your System

Click below to customize your system on a map. (optional)






Go to
PWatts
results



5. Record monthly and annual PV system output projections

- Record monthly PV system output in column under “AC Energy” (top arrow).
- Record annual PV system output at the bottom (bottom arrow).

RESULTS

 Print Results

5,508 kWh/Year*

Month		AC Energy (kWh)	Value (\$)
January	5.42	493	N/A
February	6.64	528	N/A
March	6.44	571	N/A
April	5.75	497	N/A
May	4.95	446	N/A
June	4.37	394	N/A
July	4.27	399	N/A
August	4.52	421	N/A
September	4.62	418	N/A
October	5.04	461	N/A
November	4.93	437	N/A
December	4.78	442	N/A
Annual		5,507	0

Congratulations!

- Users now have both the annual and monthly PV outputs from PVWatts!