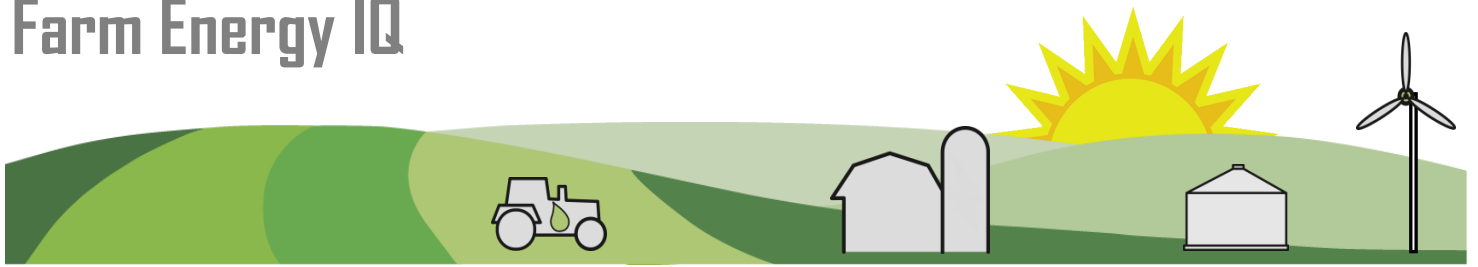
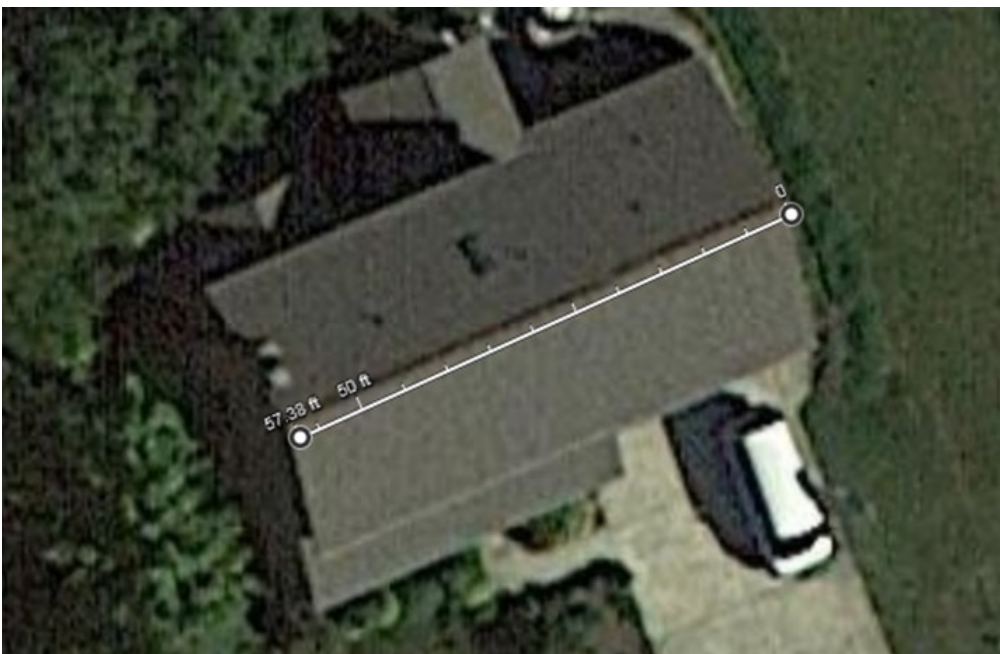


Farm Energy IQ



Solar Energy on Farms—Activity

Estimate Photovoltaic Electricity Output (Solution)



Assume roof mount system.

Approximate dimensions of front main roof: 57' by 12'

Approximate azimuth of front main roof: 160°

Approximate dimensions of a solar PV panel: 3' by 5'

Estimate number of solar PV panels and maximum output at 150 watts per panel

ZIP code is 15601.

Use PVWatts Calculator to estimate annual energy output.

55' by 12' enables about 11 panels by 4 panels or 44 panels.

44 panels times 150 watts per panel is 6,600 watts

The screenshot shows the PVWatts Calculator interface. At the top, there is a navigation bar with "My Location" set to "15601" and a "Change Location" link. Other navigation options include "Release Notice (?)", "HELP", "FEEDBACK", and "ALL NREL SOLAR TOOLS". The main content area is divided into three tabs: "RESOURCE DATA", "SYSTEM INFO" (which is active), and "RESULTS". The "SYSTEM INFO" section contains several input fields for system parameters: "DC System Size (kW)" is 6.6, "Module Type" is Standard, "Array Type" is Fixed (open rack), "System Losses (%)" is 14, "Tilt (deg)" is 30, and "Azimuth (deg)" is 160. Each input field has an information icon. To the right of the input fields is a "RESTORE DEFAULTS" button and a "Draw Your System" section with a map interface. On the left and right sides of the main content area, there are orange arrow buttons labeled "Go to resource data" and "Go to PVWatts® results" respectively.

PVWatts® Calculator **NREL**
NATIONAL RENEWABLE ENERGY LABORATORY

My Location **15601** [» Change Location](#) [Release Notice \(?\)](#) [HELP](#) [FEEDBACK](#) [ALL NREL SOLAR TOOLS](#)

RESOURCE DATA **SYSTEM INFO** RESULTS

SYSTEM INFO

Modify the inputs below to run the simulation.

DC System Size (kW): [i](#)

Module Type: [i](#)

Array Type: [i](#)

System Losses (%): [i](#) [Loss Calculator](#)

Tilt (deg): [i](#)

Azimuth (deg): [i](#)

[RESTORE DEFAULTS](#)

Draw Your System

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

[Go to resource data](#) [Go to PVWatts® results](#)

My Location

15601
» Change Location

Release Notice (?)

HELP

FEEDBACK

ALL NREL SOLAR TOOLS

RESOURCE DATA SYSTEM INFO RESULTS

RESULTS

8,088 kWh per Year *

Print Results

Go to system info

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Energy Value (\$)
January	2.44	442	44
February	3.28	532	53
March	4.16	706	71
April	4.99	811	81
May	5.46	881	88
June	5.77	878	88
July	5.63	882	88
August	5.53	862	86
September	4.61	713	71
October	3.93	651	65
November	2.47	417	42
December	1.76	313	31
Annual	4.17	8,088	\$ 808

Estimated annual production is: 8,088 kWh.

This project supported by the Northeast Sustainable Agriculture Research and Education (SARE) program. SARE is a program of the National Institute of Food and Agriculture, U.S. Department of Agriculture. Significant efforts have been made to ensure the accuracy of the material in this report, but errors do occasionally occur, and variations in system performance are to be expected from location to location and from year to year.

Any mention of brand names or models in this report is intended to be of an educational nature only, and does not imply any endorsement for or against the product.

The organizations participating in this project are committed to equal access to programs, facilities, admission and employment for all persons.

