

Caution: Photovoltaic system performance predictions calculated by PVWatts<sup>®</sup> include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts<sup>®</sup> inputs. For example, PV modules with better performance are not differentiated within PVWatts<sup>®</sup> from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at //sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

Disclaimer: The PVWatts<sup>®</sup> Model ("Model") is provided by the National Renewable Energy Laboratory ("NREL"), which is operated by the Alliance for Sustainable Energy, LLC ("Alliance") for the U.S. Department Of Energy ("DOE") and may be used for any purpose whatsoever.

The names DOE/NREL/ALLIANCE shall not be used in any representation, advertising, publicity or other manner whatsoever to endorse or promote any entity that adopts or uses the Model. DOE/NREL/ALLIANCE shall not provide any support, consulting, training or assistance of any kind with regard to the use of the Model or any updates, revisions or new versions of the Model.

YOU AGREE TO INDEMNIFY DOE/NREL/ALLIANCE, AND ITS AFFILIATES, OFFICERS, AGENTS, AND EMPLOYEES AGAINST ANY CLAIM OR DEMAND, INCLUDING REASONABLE ATTORNEYS' FEES, RELATED TO YOUR USE, RELIANCE, OR ADOPTION OF THE MODEL FOR ANY PURPOSE WHATSOEVER. THE MODEL IS PROVIDED BY DOE/NREL/ALLIANCE 'AS IS' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED. IN NO EVENT SHALL DOE/NREL/ALLIANCE BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO CLAIMS ASSOCIATED WITH THE LOSS OF DATA OR PROFITS, WHICH MAY RESULT FROM ANY ACTION IN CONTRACT, NEGLIGENCE OR OTHER TORTIOUS CLAIM THAT ARISES OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE MODEL.

The energy output range is based on analysis of 30 years of historical weather data, and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.



## 155,052,584 kWh/Year\*

System output may range from 144,338,451 to 158,479,246 kWh per year near this location.

| Month     | Solar Radiation<br>(kWh / m <sup>2</sup> / day) | AC Energy<br>(kWh) |
|-----------|---|--------------------|
| January   | 2.23  | 6,711,342          |
| February  | 3.34  | 8,951,008          |
| March     | 4.98  | 14,055,412         |
| April     | 5.92  | 15,417,815         |
| Мау       | 7.01  | 18,082,731         |
| June      | 7.55  | 18,605,362         |
| July      | 8.57  | 21,478,770         |
| August    | 7.13  | 18,042,909         |
| September | 5.68  | 14,340,033         |
| October   | 3.24  | 8,813,426          |
| November  | 1.93  | 5,317,737          |
| December  | 1.78  | 5,236,040          |
| nnual     | 4.95  | 155,052,585        |
|           |   |                    |

| Location and Station Identification |                                |
|-------------------------------------|--------------------------------|
| Requested Location                  | riverside road, busti, ny      |
| Weather Data Source                 | Lat, Lng: 42.01, -79.26 0.6 mi |
| Latitude                            | 42.01° N                       |
| Longitude                           | 79.26° W                       |
| PV System Specifications            |                                |
| DC System Size                      | 111720 kW                      |
| Module Type                         | Standard                       |
| Аггау Туре                          | 1-Axis Tracking                |
| System Losses                       | 14.08%                         |
| Array Tilt                          | 0°                             |
| Array Azimuth                       | 180°                           |
| DC to AC Size Ratio                 | 1.241                          |
| Inverter Efficiency                 | 96%                            |
| Ground Coverage Ratio               | 0.4                            |
| Albedo                              | From weather file              |
| Bifacial                            | Yes (0.7)                      |
|                                     | Jan Feb Mar Apr May June       |
| Monthly Irradiance Loss             | 6.6% 5.8% 4.1% 1.6% 0.5% 0.5%  |
| -                                   | July Aug Sept Oct Nov Dec      |
|                                     | 0.5% 0.5% 0.5% 0.5% 2.6% 5.3%  |

| Ground Coverage Ratio | 0.4   |
|-----------------------|-------|
| Performance Metrics   |       |
| DC Capacity Factor    | 15.8% |