

SOLAR RESOURCE CALCULATION

LOCAL PLANNING HANDBOOK

CITY OF HASTINGS

The [Metropolitan Land Planning Act](#) requires that the Comprehensive Plan shall contain “an element for the protection and development of access to direct sunlight for solar energy systems.” The following needs to be included in your 2040 Comprehensive Plan Update for it to be considered complete:

- This calculation of your community’s solar resource, along with your community’s Solar Suitability Analysis Map, also available on your [Community Page](#).
- A policy or policies relating to the development of access to direct sunlight for solar energy systems.
- Strategies needed to implement the policy or policies.

Please refer to the [Resilience](#) plan element of the Local Planning Handbook to learn more about the requirements for solar resource protection and development for the 2040 Comprehensive Plan Update.

Gross and Rooftop Solar Resource Calculations

The gross solar potential and gross solar rooftop potential are expressed in megawatt hours per year (Mwh/yr), and these estimates are based on the solar map for your community. These values represent gross totals; in other words, they are not intended to demonstrate the amount of solar likely to develop within your community. Instead, the calculations estimate the total *potential* resource before removing areas unsuitable for solar development or factors related to solar energy efficiency.

The gross solar generation potential and the gross solar rooftop generation potential for your community are estimates of how much electricity could be generated using existing technology and assumptions on the efficiency of conversion. The conversion efficiency of 10% is based on benchmarking analyses for converting the Solar Suitability Map data to actual production, and solar industry standards used for site-level solar assessment.

Please contact your [Sector Rep](#) if you have any questions. Your community totals are shown in the table below:

Community ¹	Gross Potential (Mwh/yr)	Rooftop Potential (Mwh/yr)	Gross Generation Potential (Mwh/yr) ²	Rooftop Generation Potential (Mwh/yr) ²
Hastings	18,575,793	1,313,092	1,857,579	131,309

¹ There are a few communities where generation potential calculations could not be produced. There are areas within some maps where data was unusable. These areas were masked and excluded from gross rooftop potential and generating potential calculations.

² In general, a conservative assumption for panel generation is to use 10% efficiency for conversion of total insolation into electric generation. These solar resource calculations provide an approximation of each community’s solar resource. This baseline information can provide the opportunity for a more extensive, community-specific analysis of solar development potential for both solar gardens and rooftop or accessory use installations. For most communities, the rooftop generation potential is equivalent to between 30% and 60% of the community’s total electric energy consumption. The rooftop generation potential does not consider ownership, financial barriers, or building-specific structural limitations.

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