



MAREC ACTION



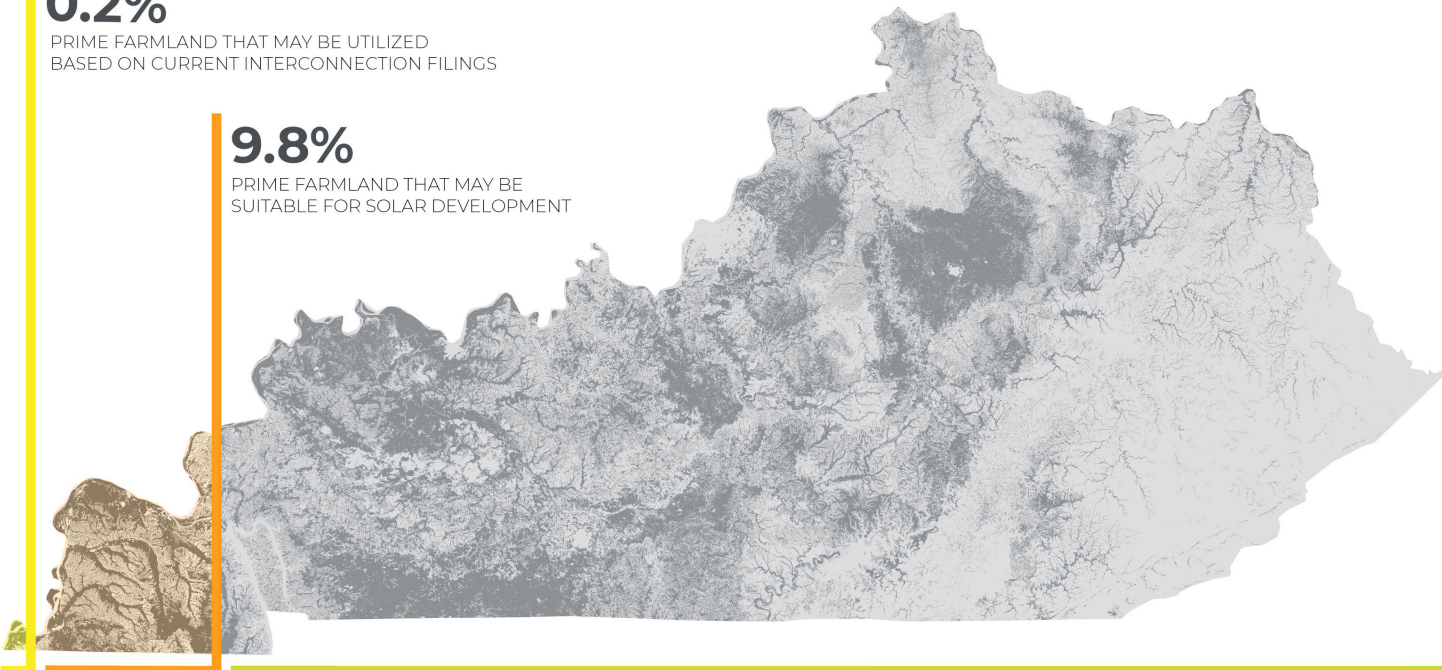
KY ag land that may be suitable for solar development:

0.2%

PRIME FARMLAND THAT MAY BE UTILIZED
BASED ON CURRENT INTERCONNECTION FILINGS

9.8%

PRIME FARMLAND THAT MAY BE
SUITABLE FOR SOLAR DEVELOPMENT



PRIME FARMLAND | KENTUCKY

Estimates presented here are based upon the latest information from: The Gridded Soil Survey Geographic (gSSURGO) Database for Kentucky. United States Department of Agriculture, Natural Resources Conservation Service.

- **19.2% is within 2 miles of transmission with over 50 MW of capacity.** Available transmission is, by far, the largest constraint.
 - o Pulling from the Protected Areas Database, there are about 28,000 acres in the PACE program.
 - o Across the state, nearly 20% of Prime Farmland is classified as in a flood zone, and 36% of total prime farmland is impacted by slope greater than 6%, which is typically avoided by solar projects.
- **Based on all of these factors, approximately 9.8% of prime farmland could potentially be developed by solar.**
 - o That does NOT mean that 9.8% of prime farmland WILL get developed – the biggest gating factor is available transmission capacity.

- While we already accounted for the available capacity per line to get to the 9.8%, *that number does not take into account overall available system capacity.*
 - o Essentially, while an individual line may be able to handle 50 MWs of injection, there is a limited number of availability on the entire system.
 - o Taking the overall system capacity into account looks like this:
 - Total MWs in PJM/MISO/LGE-KU/TVA Queues in Kentucky: 15,527
 - MWs likely to be successful based on historic success rates (20%): 3,105
 - Acres required for successful MW (assuming 7 acres/MW): 21,737
 - **Percentage of Prime Farmland that could realistically be used by solar (near-term): 0.2%**

Base Data

*Data is based on NRCS Farmland Classification data with any “Urban Area” removed.

LAND CLASSIFICATION GROUPINGS	TOTAL ACRES USED FOR CALCULATIONS
1. All areas are prime farmland 2. Prime farmland if drained 3. Prime farmland if protected from flooding or not frequently flooded during the growing season 4. Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season 5. Farmland of statewide importance	9,180,055

Prime Farmland

Gridded SSURGO (gSSURGO) [[USDA:NRCS:Geospatial Data Gateway:Home](https://www.nrcs.usda.gov/geospatial-data-gateway)]

Urban Areas

U.S. National Atlas Urbanized Areas

[http://geospatial.dcgis.dc.gov/dc_kmz/metadata/New%20folder/urban_dtl.html]