# Ag & Energy Renewable Energy Lesson 4

**Energy Potential**

Navigate to the website: <https://maps.nrel.gov/re-atlas/> Use the map, the data layers and the queries to answer the following questions.

1. Using a region query on the Wind Power Class – Onshore layer, what is the wind energy power class around Spencer, Iowa? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What part of Iowa has the least wind energy potential? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Using the Point Query on the Biomass Residue layer, identify which six counties in Iowa have the highest potential for producing biomass residue. ­­­­­­­­­­­
4. How much biomass residue is produced in Keokuk County?
5. Which county in Iowa has the least potential for producing biomass residue?
6. Use the Solar Photovoltaic layer. What corner of the Iowa has the lowest potential for producing solar electricity (NW, NE, SW, SE)?
7. Most of Iowa receives approximately 4,610 watt hours per square meter per day of photovoltaic energy. How much photovoltaic energy does southern Arizona receive?
8. Use the Geothermal layer. Does western Iowa have high potential for geothermal energy?
9. Use the Hydro layer. Identify the Iowa river that has good potential for hydroelectric power.
10. Use the Point Query. How many kilowatts are produced at the hydroelectric station southeast of Lake Red Rock?