Exercise #5   **PV Solar Energy Systems**   **SP.769**

Continuing with your design of a stand-alone system for a residence 5 miles off-grid, in a clearing in the woods, in the vicinity of your city:

Do an inventory of all the electrically powered artifacts in your residence.

Conjecture a daily load profile for two seasons of the year - worst month and best month for solar flux (at your fixed array tilt).

"Size" your pv array and battery storage such that you have but a 1% chance of depleting the battery. Note: take the probabilities for a good day and a bad day as those you obtained assuming a horizontal array and given your specified load but now size the array using the flux at whatever tilt you choose - keeping the difference of the mean array output at tilt and the load the same.

Cost out your system, using the web as a resource.

Determine if there are any federal or state incentives for installing photovoltaics. If available, how do these change your cost estimates?

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