Building energy around changing climate

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ORNL has created publicly available data sets about projected energy use for all U.S. buildings through 2100 under different climate change scenarios, enhanced with a free visualization tool. Credit: Andy Sproles/ORNL, U.S. Dept. of Energy

Researchers at Oak Ridge National Laboratory have developed free data sets to estimate how much energy any building in the contiguous U.S.

will use in 2100. These data sets provide planners with a way to anticipate future energy needs as the climate changes.

Considering only today's buildings, the team analyzed energy use and weather records dating back to 1980, identifying which months displayed the most typical weather patterns. They combined that data with future projections by the Intergovernmental Panel for Climate Change, including four possible levels of atmospheric warming and four policy outcomes incorporating variables such as population and economic growth. The county-specific weather data, enhanced by a free [visualization](#) tool, can predict a building's energy use down to the day and hour.

ORNL project lead Joshua New said the data, made publicly available a few months ago, is already being utilized more than expected. Power companies are using it to project future electricity demand, cities are developing climate-friendly building codes and architects are designing sustainable buildings.

Provided by Oak Ridge National Laboratory