Background and Contact

This is the replication package for the following article:

> Gazmararian, Alexander F., and Tingley, Dustin. 2024. "Reimagining net metering: A polycentric model for equitable solar adoption in the United States." *Energy Research & Social Science* 108: 103374. https://doi.org/10.1016/j.erss.2023.103374

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Software and Package Dependencies

Analyses were performed on a MacBook Pro (M2 chip) with 32 GB of memory running macOS 14.1.1 and using R version 4.3.0 (2023-04-21) [aarch64-apple-darwin20 (64-bit)].

The preamble of each script lists the package dependencies.

Replication Instructions

1. Load the "rep_polycentric.Rproj" R Project environment. Do not set a working directory. The replication package is self-contained. All file paths are relative, using the `{here}` package.
2. Remove objects from the Global Environment between running each script to avoid complications.

The **data** and **output** folders contains data, tables, and figures from running the code.

Directory Structure and Scripts

- **code**
  - `01_clean_netmetering.R`: Processes net-metering data for subsequent calculations of revenue-raising potential.
  - `02_analyze_ces.R`: Analyzes willingness to make donations and donation allocations in the CES data.
  - `02_analyze_fundsraise.R`: Calculates the revenue-raising potential of the program.
  - `02_plot_netmetering.R`: Creates figure of net-metering growth over time.
  - **fun**: Contains custom functions called by scripts.
  - **qualtrics**: Contains R scripts analyzing the survey experiments on the Qualtrics sample.
    - `analyze_conjoint.R`: Analyzes the conjoint experiment.
    - `analyze_donationuse_stm.R`: Structural topic model of open-ended answers about how people would use their net metering proceeds.

    - `analyze_flywheel.R`: Analyze the flywheel experiment.
    - `analyze_lossaversion.R`: Analyze the loss aversion experiment.
    - `analyze_polycentric.R`: Analyze the polycentric governance experiment.
    - `analyze_power.R`: Analyze the effect of offering the program on evaluations of power companies.
- **data**: Location of data used in the analyses.
- **output**: Location of tables and figures created by the scripts.
  - **figures**
  - **tables**