**This data archive contains the following files:**

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| agg\_6R.csv | Aggregation file for Country level to 6 world regions |
| RCP4.5\_aggregate\_6R\_2050.csv, RCP8.5\_aggregate\_6R\_2050.csv | Results for 6 major world regions by SSP, fuel and sector and for response in energy demand to changes in the nr. of hot days, cold days and both. |
| RCP4.5\_EnergyImpacts\_HotCold\_2050.csv, RCP8.5\_EnergyImpacts\_HotCold\_2050.csv | Spatial results at 1/8-degree level by Earth System Model, SSP, fuel and sector for response in energy demand to changes in the nr. of hot days, cold days and both |
| RCP4.5\_ClimEnergyTotals\_v2\_2050\_tot.csv, RCP8.5\_ClimEnergyTotals\_v2\_2050\_tot.csv | Spatial results at 1/8-degree level by SSP for response in energy demand to changes in the nr of combined hot and cold days. |
| RCP4.5\_ClimateData\_small\_2050.csv,  RCP8.5\_ClimateData\_small\_2050.csv | Subset of EnergyImpacts\_HotCold\_2050.csv for a single fuel/sector combination (used to generate latitude profiles of changes in hot and cold days in Figure 1 in the paper) |
| spatial\_pop\_2010.csv | Historic spatial population in 2010 at 1/8th degree |
| spatial\_pop\_total.csv | Spatial population at 1/8th degree for all SSPs, incl changes between 2010 and 2050 |
| spatial\_pop\_yrs.csv | Spatial population for the SSPs in 2050 at 1/8th degree |
| SSP\_GDP.csv | GDP projections per country for the SSPs from the OECD projections |

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| **Variables in**  **RCP4.5\_aggregate\_6R\_2050.csv and RCP8.5\_aggregate\_6R\_2050.csv** | |
| SCENARIO | Shared socioeconomic pathway scenario (SSP1-SSP5) |
| Year | 2050 |
| gcm | climate model  (ACCESS1-0, BNU-ESM, CCSM4, CESM1-BGC, CNRM-CM5, CSIRO-Mk3-6-0, CanESM2, GFDL-ESM2G, GFDL-ESM2M, IPSL-CM5A-LR, IPSL-CM5A-MR, MIROC-ESM, MIROC-ESM-CHEM, MIROC5, MPI-ESM-LR, MPI-ESM-MR, MRI-CGCM3, NorESM1-M, bcc-csm1-1, inmcm4) |
| REGION | World region  (Oceania, Middle East & Africa, Europe, North America, South America, Asia, World) |
| Sector | IEA sector  (agr: agriculture, ind: industry, res: residential, ter: tertiary/commercial, Total: all sectors) |
| Fuel | IEA final energy carrier (elc: electricity, gaz: natural gas, pet: petroleum) HC |
| HC | Identifier for calculating change in hot days (HOT), cold days (COLD) or both (TOTAL) |
| TotEnHist | Year 2010 historical energy demand (PJ) |
| TotEn | Year 2050 baseline energy demand, assuming a stable climate (PJ) |
| EnClim | Year 2050 baseline energy demand, with climate change (PJ) |
| EnClim\_hot | Year 2050 baseline energy demand, with climate change due to change in hot days only (PJ) |
| EnClim\_cold | Year 2050 baseline energy demand, with climate change due to change in cold days only (PJ) |
| TotEnChg | Change in energy demand from 2010 to 2050 baseline, expressed as a multiple of 2010 demand |
| TotEnClimChg | Change in energy demand from 2050 baseline to 2050 with climate change, expressed as a multiple of 2050 demand |
| **Additional variables in**  **RCP4.5\_EnergyImpacts\_HotCold\_2050.csv and RCP8.5\_EnergyImpacts\_HotCold\_2050.csv and**  **RCP4.5\_ClimateData\_small\_2050.csv and RCP8.5\_ClimateData\_small\_2050.csv** | |
| x | grid cell longitude |
| y | grid cell latitude |
| ISO3 | 3-digit country code |
| dtemp | Indicator of temperate Koppen climate classification |
| histpeople | Historical 2010 population |
| people | 2050 population from SSP projections |
| change | Change in population between 2010 and 2050 |
| weight | Population in grid as share of total country population (not used in this analysis) |
| **Variables in agg\_6R.csv** | |
| OLD | 3-digit ISO3 country code |
| NEW | World region  (Oceania, Middle East & Africa, Europe, North America, South America, Asia) |
| **Variables in spatial\_pop\_total.csv** | |
| x | grid cell longitude |
| y | grid cell latitude |
| ISO3 | 3-digit country code |
| SCENARIO | Shared socioeconomic pathway scenario (SSP1-SSP5) |
| Year | 2050 |
| histpeople | Historical 2010 population |
| people | 2050 population from SSP projections |
| change | Change in population between 2010 and 2050 |
| weight | Population in grid as share of total country population (not used in this analysis) |
| **Variables in spatial\_pop\_yrs.csv and spatial\_pop\_2010.csv** | |
| x | grid cell longitude |
| y | grid cell latitude |
| ISO3 | 3-digit country code |
| SCENARIO | Shared socioeconomic pathway scenario (SSP1-SSP5) / or 2010 for historic data |
| Year | 2050 |
| Layer | Nr of persons per grid cell |
|  |  |
| ISO3 | 3-digit country code |
| Year | 2010, 2050 and 2090 |
| SCENARIO | Shared socioeconomic pathway scenario (SSP1-SSP5) |
| pop | Population (in million persons) |
| gdp | Gross Domestic Product in billion USD per year |
| gdppc | GDP per capita in USD per year |
| gdppc\_chg | Relative change in GDP per capita relative to 2010 |