Reaching net zero emissions is a global endeavor: wherever humans live, individual and collective choices and actions can pave the way towards net zero.

We are creating a collaborative tool that demonstrates the impact of collective responsibility on the environment. Our goal is to identify personal and collective actions that pave the way towards reaching net zero emissions. The **Net Zero Data Observatory** fosters open collaboration to create open-source software and new data assets that demonstrate the interactions between humans and their environment. We employ some of the following technologies:

- Our [retroharmonize] package is the first open-source tool to connect international policy survey data from European, Arab, African, Latin-American, and Central Asian sources. We expect to include Asiabarometer survey data once the datasets are available. The package allows aggregating self-reported climate mitigation actions and public opinion data at the sub-national, national, and regional levels.

- Our [regions] package works with vast quantities of provincial, state, regional, and metropolitan area data. This enables analyzing various socio-economic indicators that are usually available only at a national or one sub-state level at a more granular level. Some indicators include value added, wages, and the carbon intensity of economic activity.

- Our [iotables] package allows standardized national accounts data to be matched with various environmental variables to calculate carbon multipliers or other important indicators of carbon intensity change.

Our software and metadata are open source, so that our results and tools can invite small and large contributors into open collaboration. We provide tutorials and examples that enable users to add satellite image data, environmental sensory, and other continuous data to individual, anonymized opinion polling and disaggregated socio-economic data. Additionally, we provide reusable maps and novel datasets that are deposited in the EU's Zenodo or Harvard's Dataverse repositories. Our data passes various scientific publication quality controls, and we submit critical components of our coding for statistical peer review.

The Net Zero Data Observatory follows the best practices recommended by the permanent data programs of the OECD, EU, and UNESCO. It is fully open source, and anyone with working knowledge of the R programming language can contribute to data processing and visualization operations. The same is true for website automation collaboration using the Go language. Our tutorials, documentation, code, and data allow the building of interactive applications with any R, Python or JavaScript technology, provided that the applications remain open source. We believe that this ensures the open participation of citizen scientists, data journalist, university research teams and even businesses.