on 23 November and countries on [11/12] December, so the results should be considered accurate as of that point in time.

Error checking

Once the data acquisition for all entities was complete, ten percent of all entities in each category were randomly selected for 'double coding' to verify data accuracy. The data acquisition process outlined above was repeated for these entities, using different coders to those who had undertaken the process the first time around. Through this method, we found identical data acquisition results in 94% of cases. This high intercoder reliability rate builds confidence in the accuracy of the coding process. Spot checks were also undertaken to verify the accuracy of data entries for specific major actors, for example, 'Los Angeles' (in cities) or 'Amazon' (in companies). The purpose of spot-checking was to confirm that any subsequent, important updates pertaining to net zero targets had been accounted for. Alongside this, Google News searches were conducted for new net zero announcements until the data acquisition process was complete.

Data limitations

Our dataset is limited by several factors. First, it is not globally comprehensive. While we have included all countries in our analysis, we limited ourselves to states, regions, and provinces of the top 25 emitting countries; cities with a population over 500,000; and companies the 2,000 largest by sales in 2020 which are publicly listed. Private companies are therefore excluded entirely, as are regions in lower-emitting countries, smaller cities and smaller public companies. Despite these exclusions, the data captures a globally significant range of actors that account for the vast bulk of global emissions.

Second, we only include data in the public domain. This may not reflect the most complete and current information held by individual entities.

Third, there are potential gaps in our analysis of net zero targets in some languages resulting from limits to translation. We mitigated this risk by assigning the coding for non-English actors to fluent speakers where possible, and then by translating non-English documents. For some languages however we were unable to enlist fluent speakers (including Thai, Turkish, Persian, and Russian). Key concepts that are used to describe net zero commitments (e.g. 'offsetting' and 'coverage') may not be discussed by non-English speakers in the same way or using the same terminology. Where languages do not use Roman script, we could not rely on accurate translation from algorithms such as Google Translate. Although many such actors are unlikely to have net zero targets at this point, certain gaps in the analysis may remain due to this constraint.

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