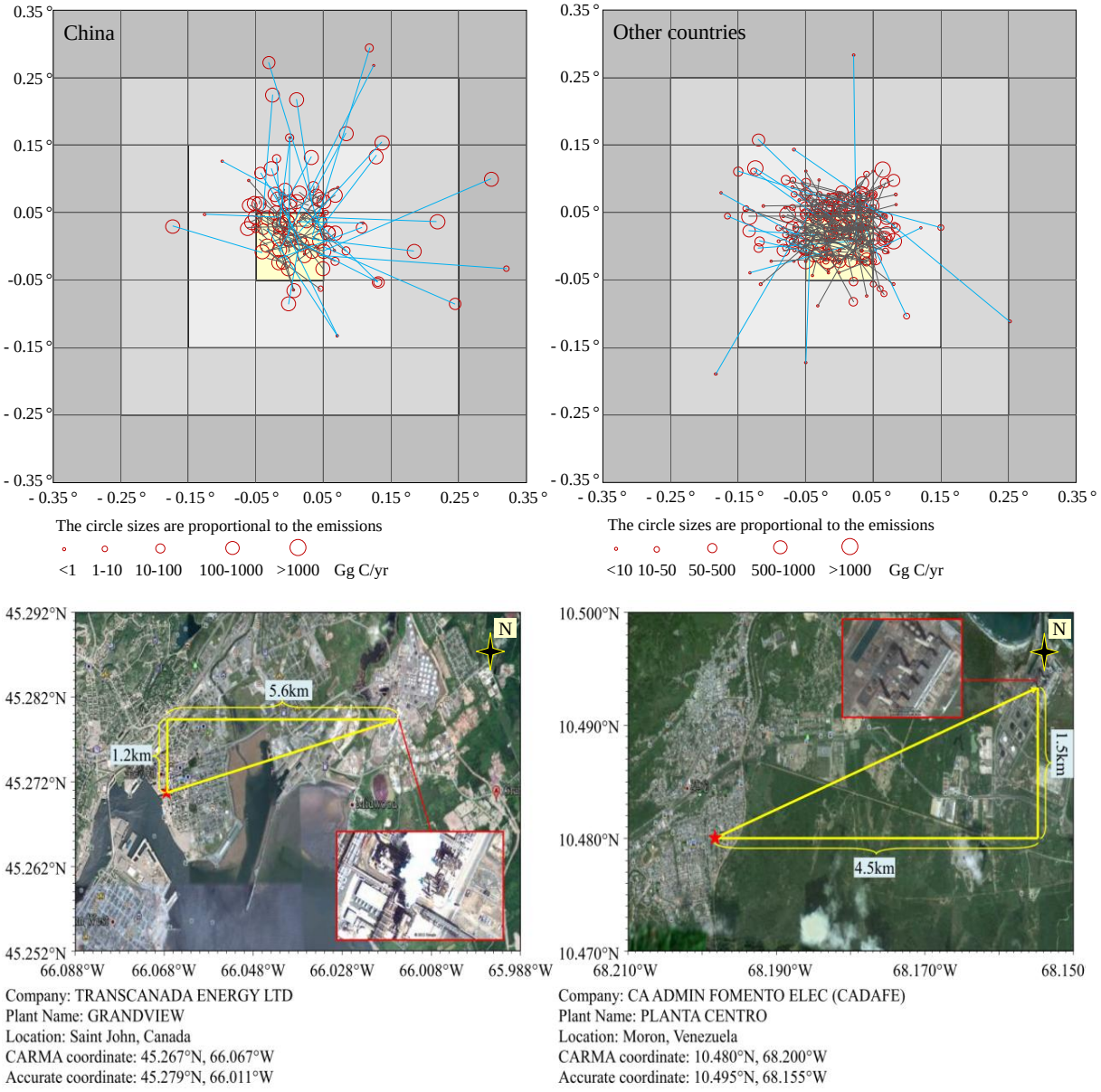

Fig. S1. Position offsets of randomly selected power stations recorded in the CARMA v2.0. The geographic positions of randomly selected 350 power stations (100 stations in China and 250 stations outside of China and U.S.A.) in the CARMA v2.0 list are checked against the presence of facility locations from visual inspection of Google imagery. The red circles are the true locations identified from Google Earth imagery, which are linked by blue lines to the CARMA v2.0 recorded locations. To do so, all stations in CARMA v2.0 were divided into 10 categories of equal sample sizes based on their annual fuel consumptions. For a stratified sampling, 50 stations (20 in China and 30 in other countries except the U.S.A.) were randomly selected from each category. The exact locations of the power stations were checked on Google Earth by searching the names of the stations and inspecting Google Earth images of power plants (chimneys and cooling towers). Roughly, 3 out of 4 stations selected were found in the Google Earth images, and 1 out of 4 stations could not be identified. As a result, 350 power stations with their locations (100 in China and 250 in other countries except the U.S.A.) were found after 476 stations were searched. The size of each circle is proportional to the emission from each power station. Two satellite images with typical views of power stations found on Google Earth are shown (the reported power stations by CARMA v2.0 are shown as red pentagrams).