

Figure S1. The diurnal cycle of Beijing ozone measured by MEE in 12 months for 2014-2020. The dark grey shaded area shows its standard deviation.

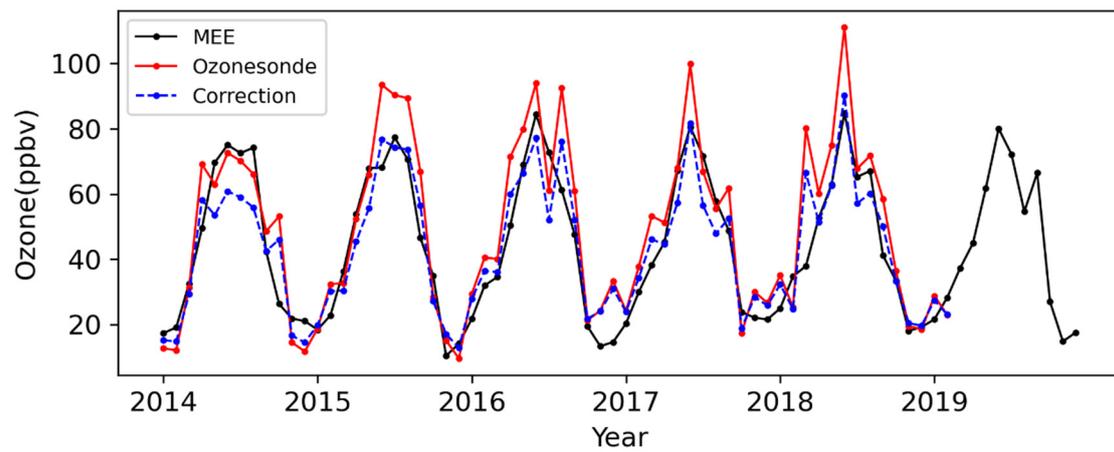


Figure S2. The ozonesonde (solid red curve) and MEE (solid black curve) ozone data for 2014-2019 and new ozonesonde data (dotted blue curve) corrected by linear regression based on MEE data.

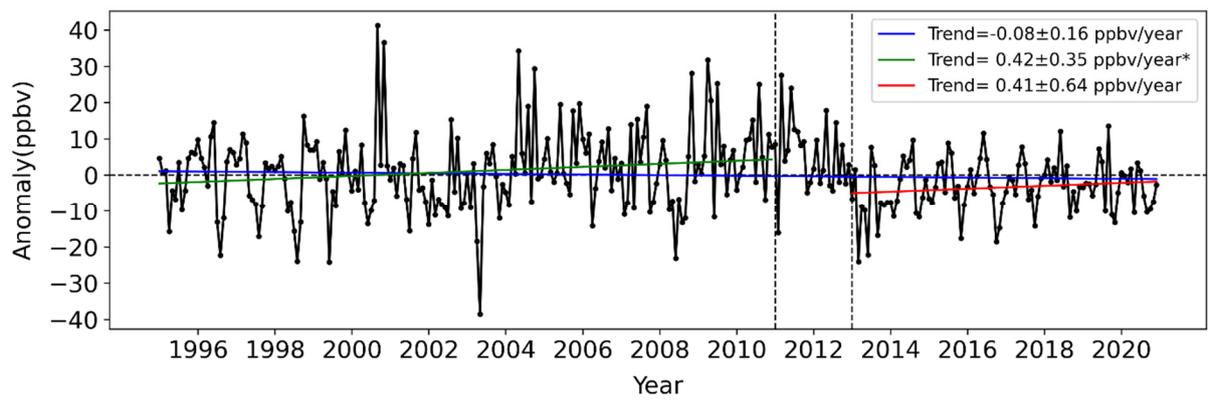


Figure S3. Monthly mean surface ozone anomalies calculated by subtracting average of each month and its linear trends during 1995-2020 (solid blue line), before 2011 (solid green line) and after 2013 (solid red line). The trends with "*" passed the 95 % significance test.

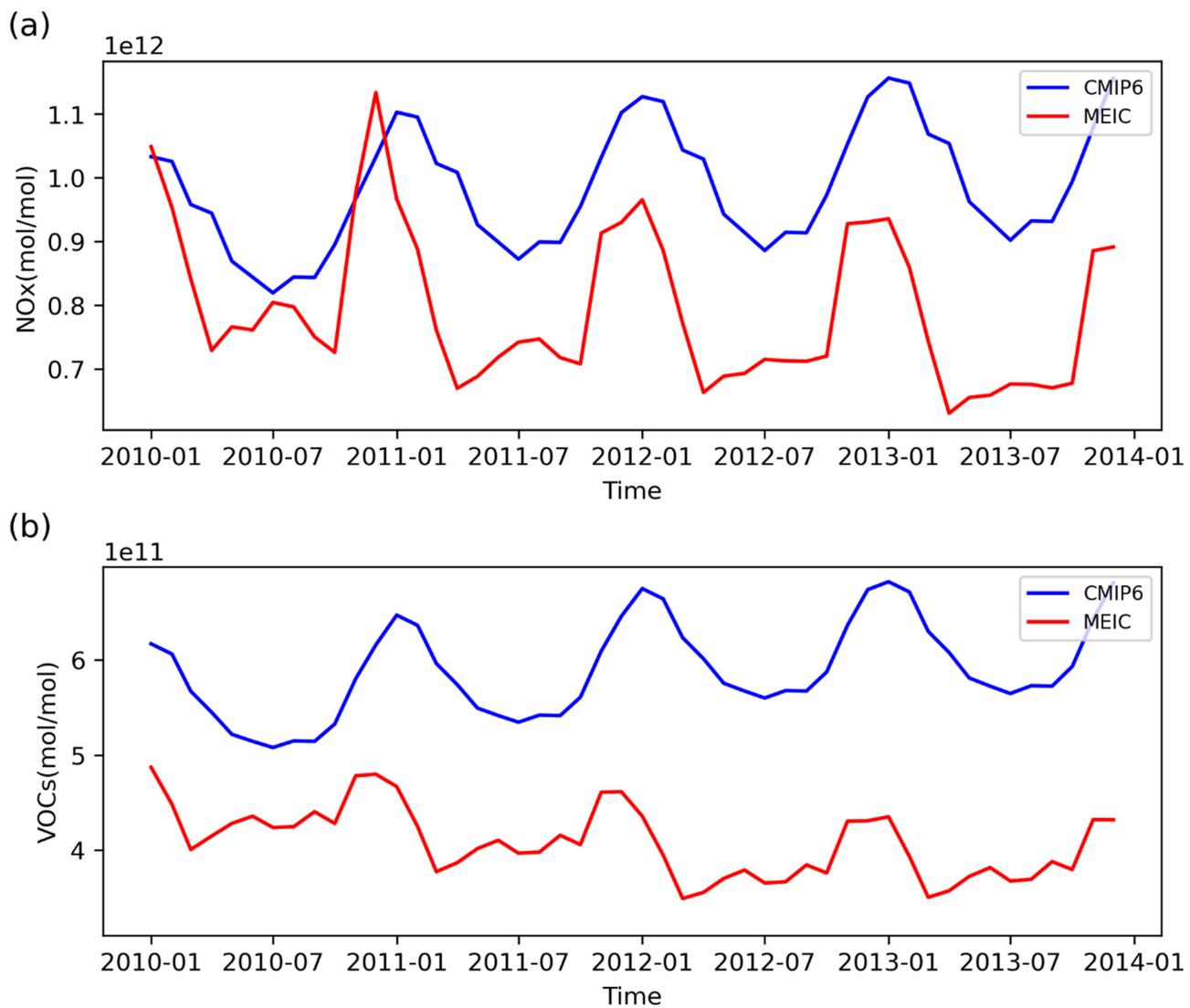


Figure S4. Anthropogenic emission of NOx (a) and VOCs (b) in Beijing from CMIP6 (blue line) and MEIC (red line).