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Supplement of

Spatial and temporal variability of urban fluxes of methane, carbon monoxide and carbon dioxide above London, UK

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Supplementary material

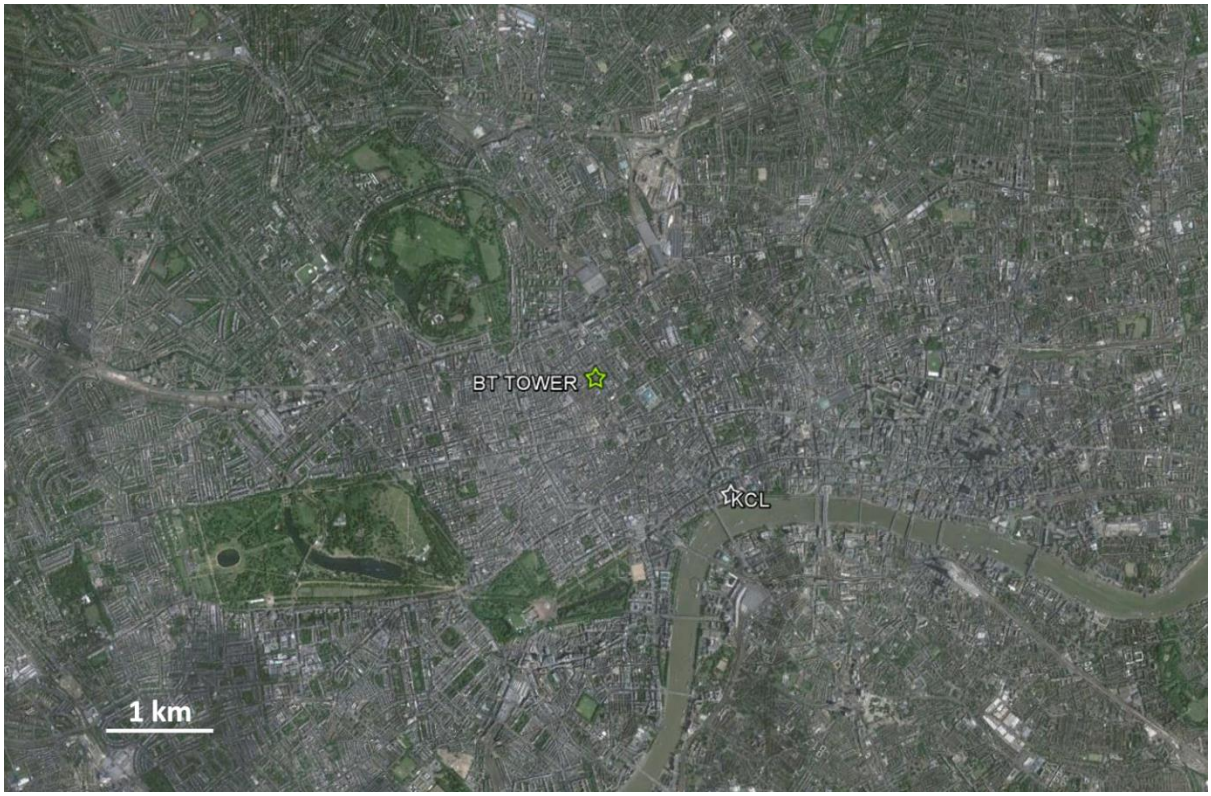

Figure S1: Satellite image of central London, UK (imagery Google™ Earth, date 06/04/2015). The location of the BT tower and King's College London (KCL) are indicated by green and white stars respectively.

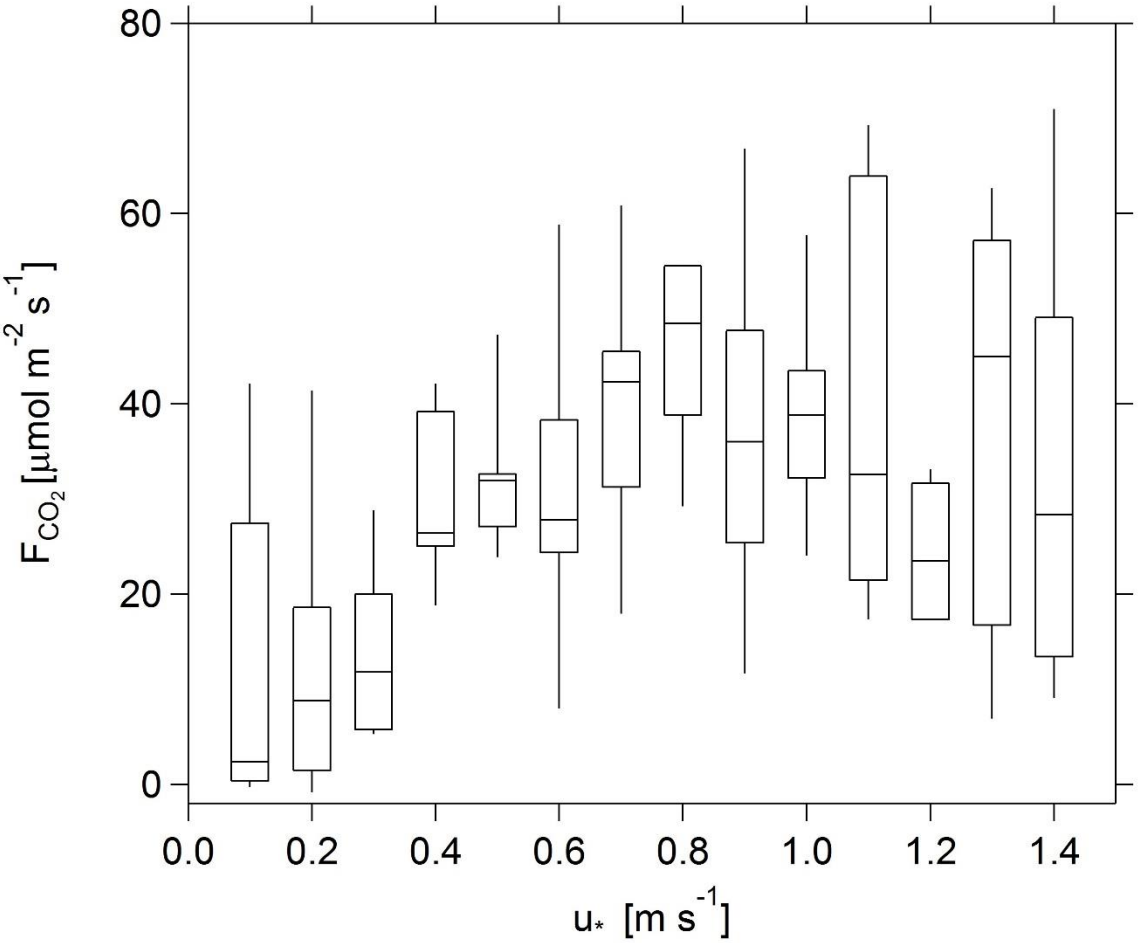

Figure S2: Fluxes of CO_2 measured at 1 Hz at the BT tower in London (sensor height: 190 m a.g.l.) as a function of u_* binned in increments of 0.1 m s^{-1} from < 0.1 m s^{-1} to < 1.4 m s^{-1}. Boxes represent 25th, 50th and 75th percentiles and whiskers denote the 10th and 90th percentile.

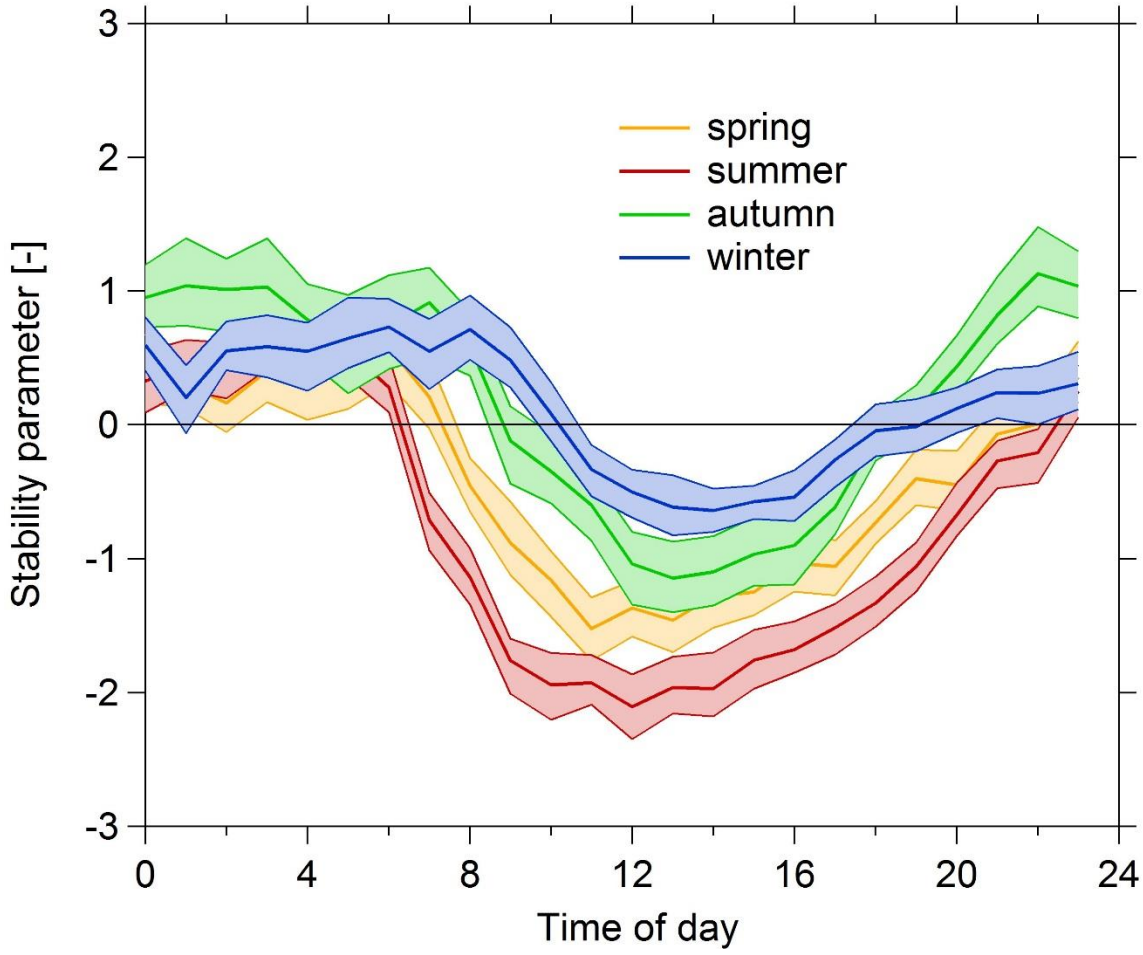

Figure S3: Mean diurnal profiles of the atmospheric stability parameter measured at the BT tower as a function of season.

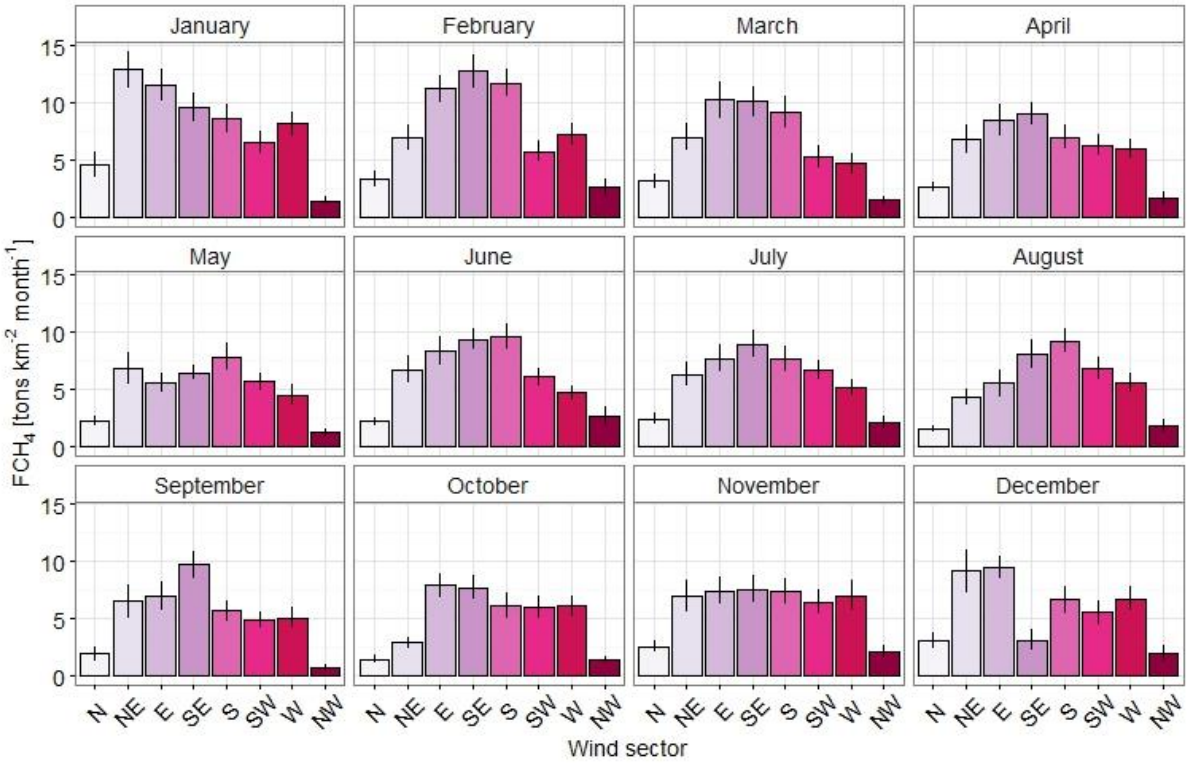

Figure S4: Monthly fluxes of methane measured by eddy-covariance at the BT tower by month and wind direction. Data period 15/09/2011-31/12/2014. Error bars are standard deviation.

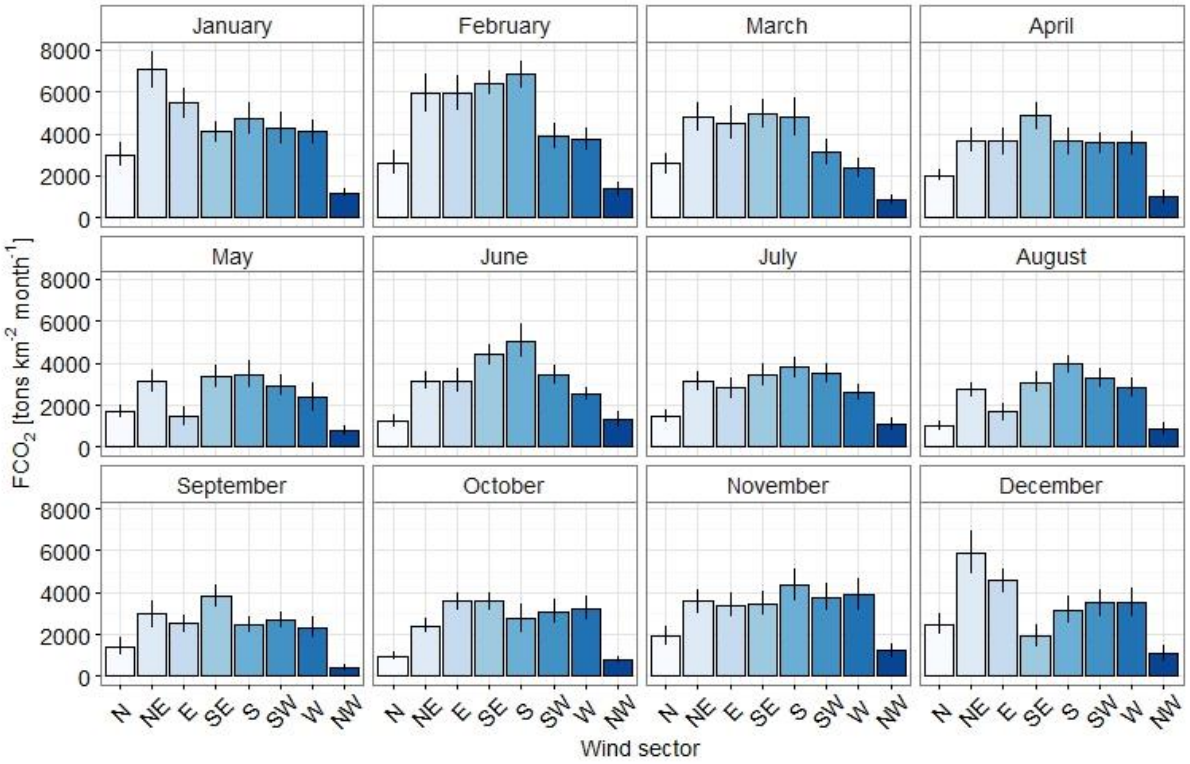

Figure S5: Monthly fluxes of carbon dioxide measured by eddy-covariance at the BT tower by month and wind direction. Data period 15/09/2011-31/12/2014. Error bars are standard deviation.

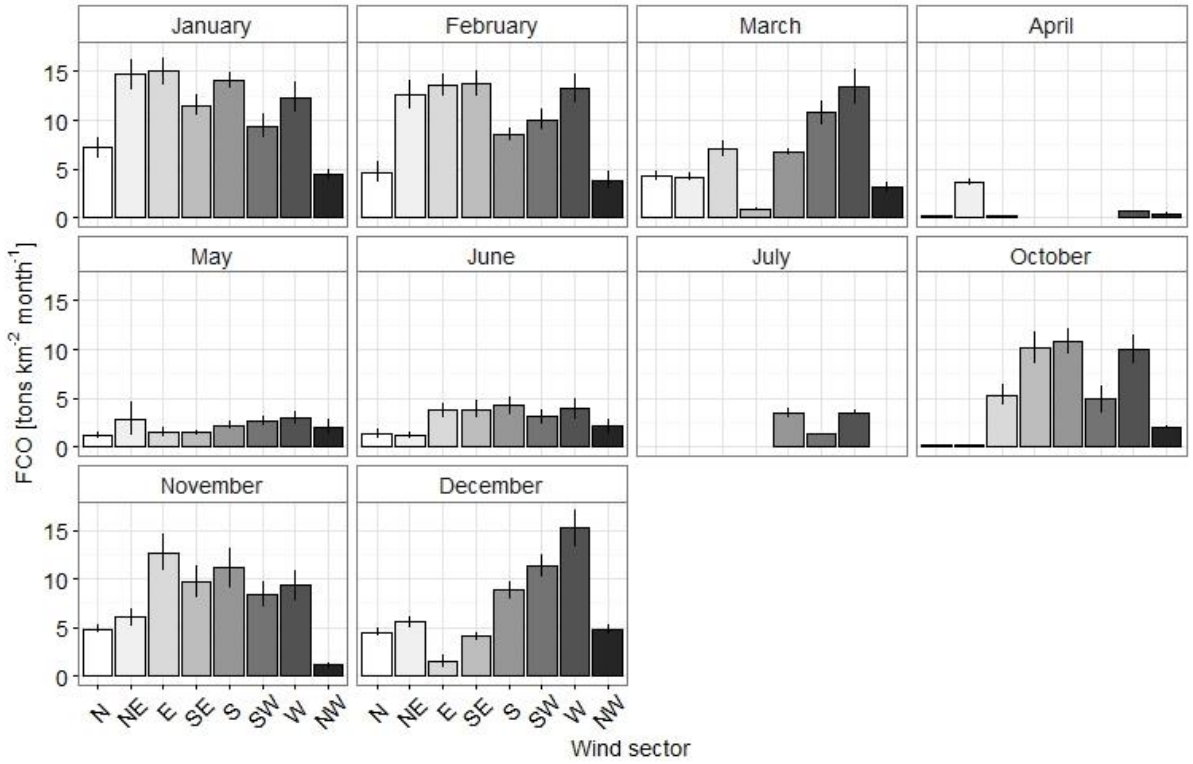

Figure S6: Monthly fluxes of carbon monoxide measured by eddy-covariance at the BT tower by month and wind direction. Data period 15/09/2011-31/12/2014. Error bars are standard deviation.

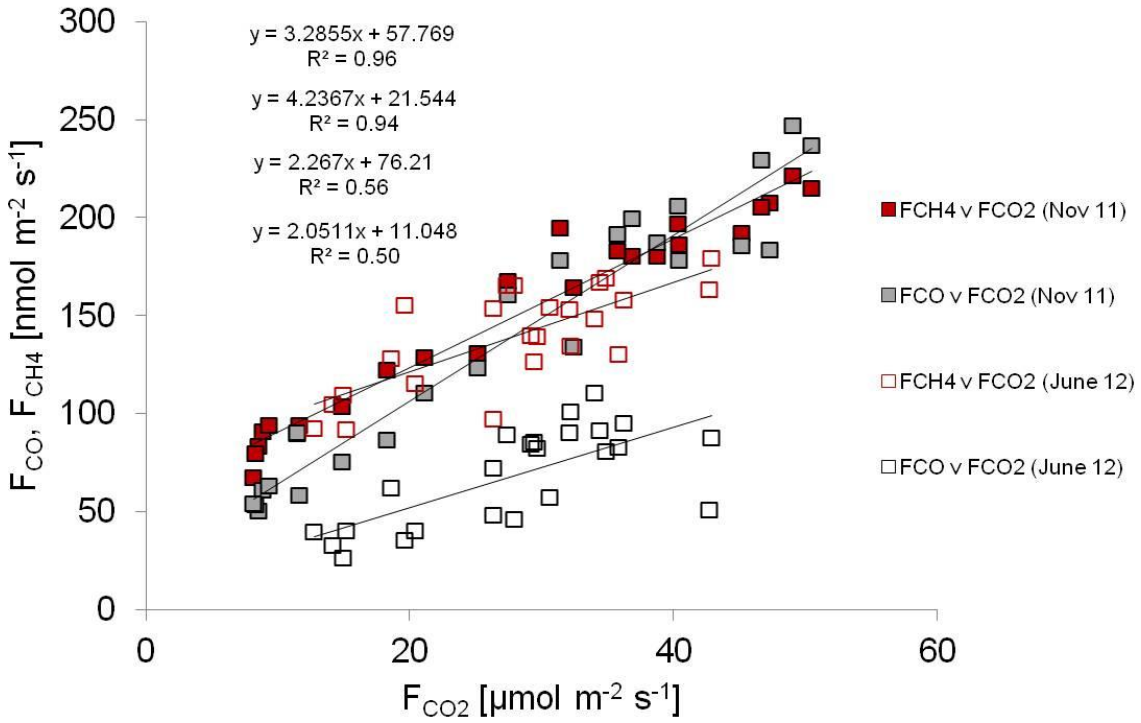

Figure S7: comparison of F_{CO} and F_{CH4} to F_{CO2} measured by eddy-covariance at the BT tower (monthly averages of spatially-integrated half-hourly values) for the months of November 2011 and June 2012.

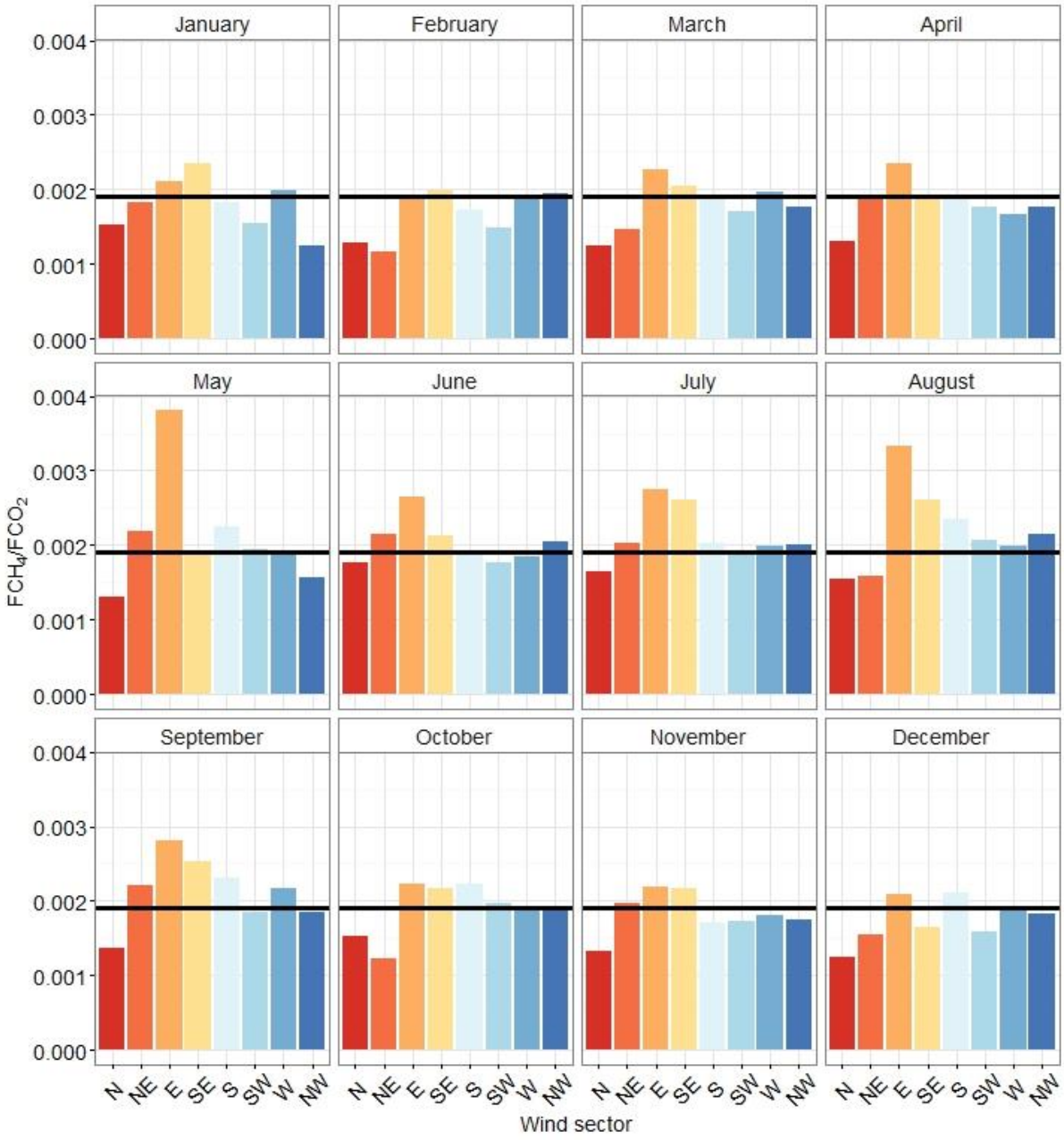

Figure S8: Ratios of fluxes of methane to carbon dioxide as a function of wind sector and month of the year. The horizontal line is the median of all data.

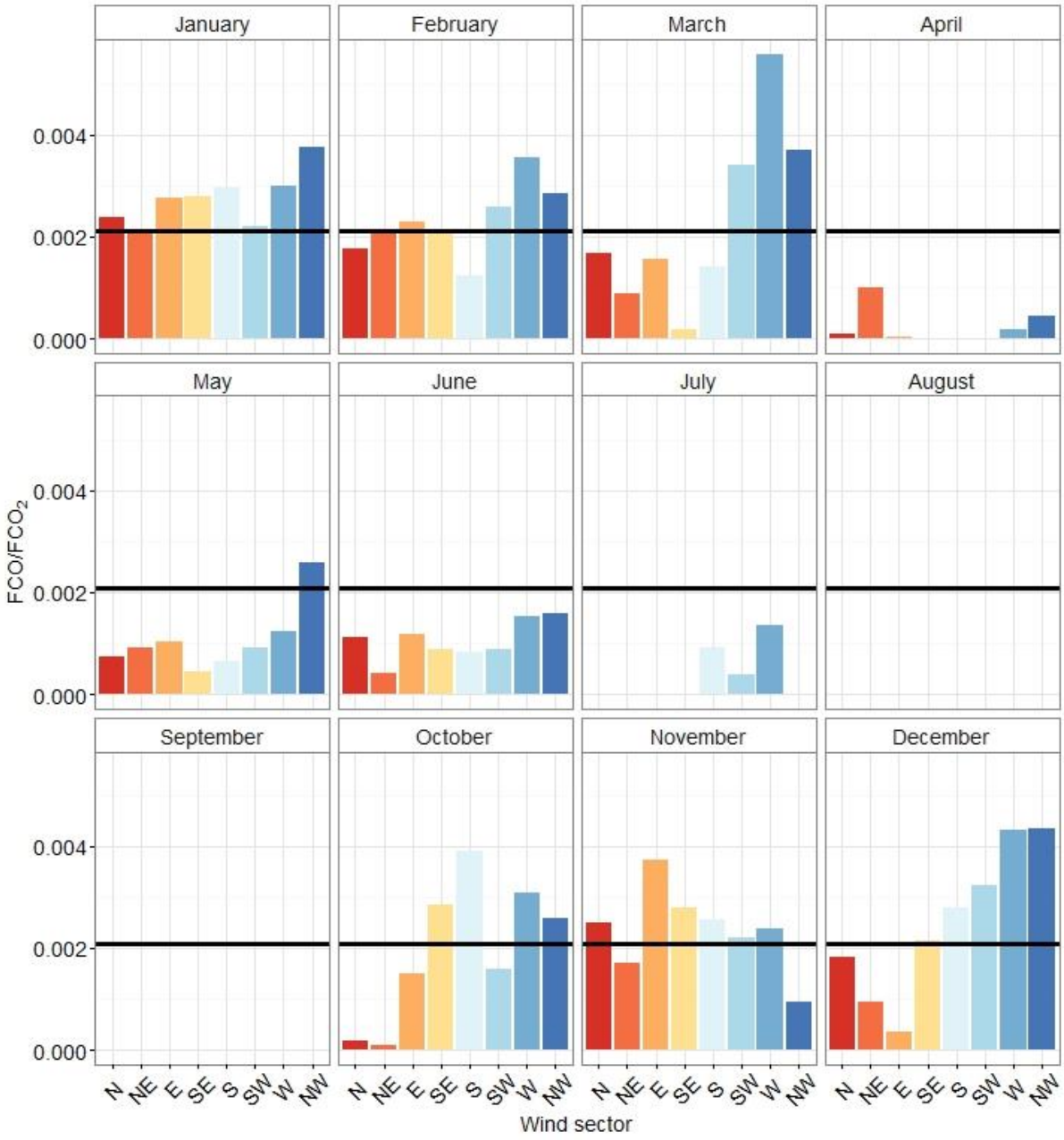

Figure S9: Ratios of fluxes of carbon monoxide to carbon dioxide as a function of wind sector and month of the year. The horizontal line is the median of all data.

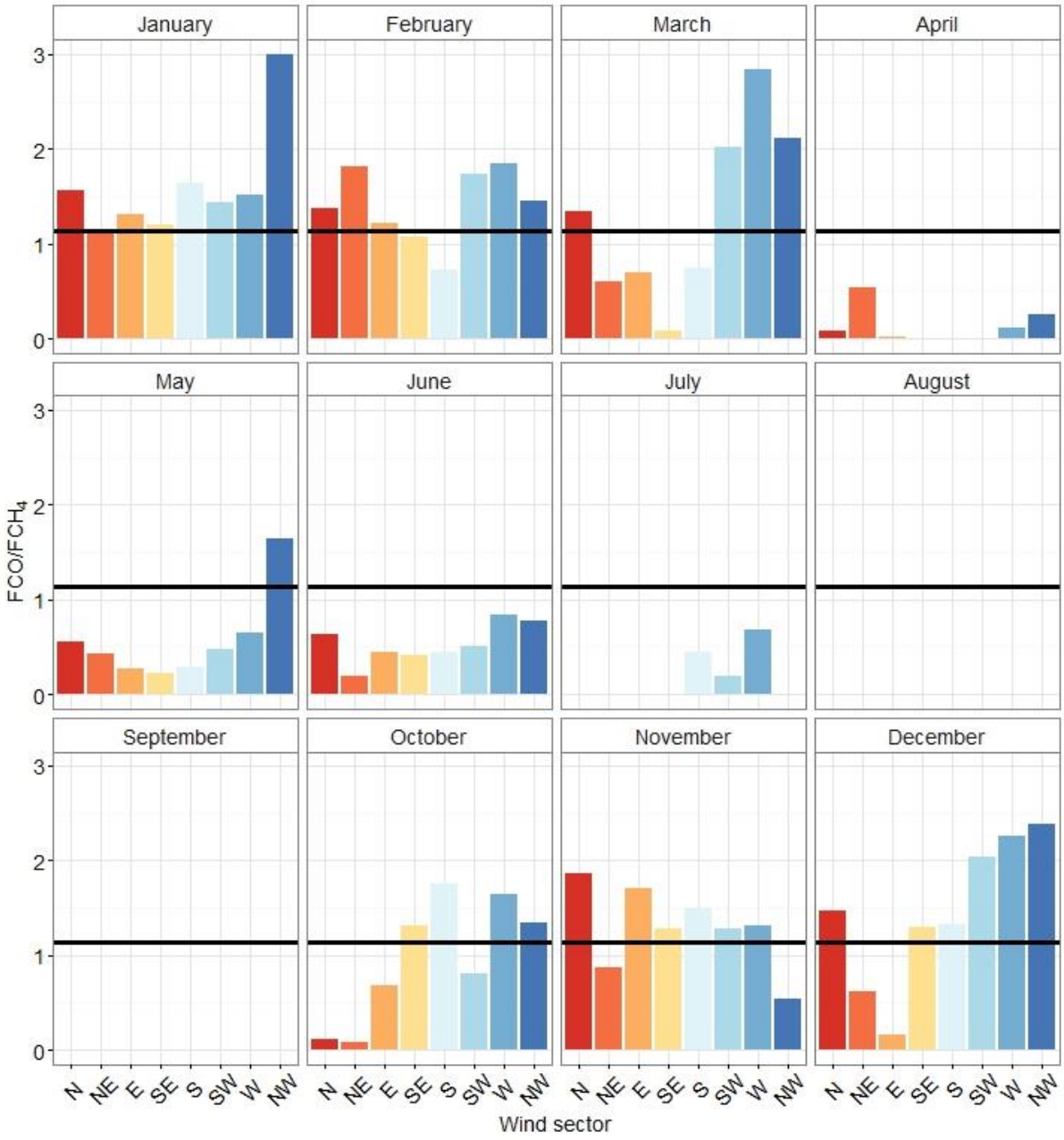

Figure S10: Ratios of fluxes of carbon monoxide to methane as a function of wind sector and month of the year. The horizontal line is the median of all data.

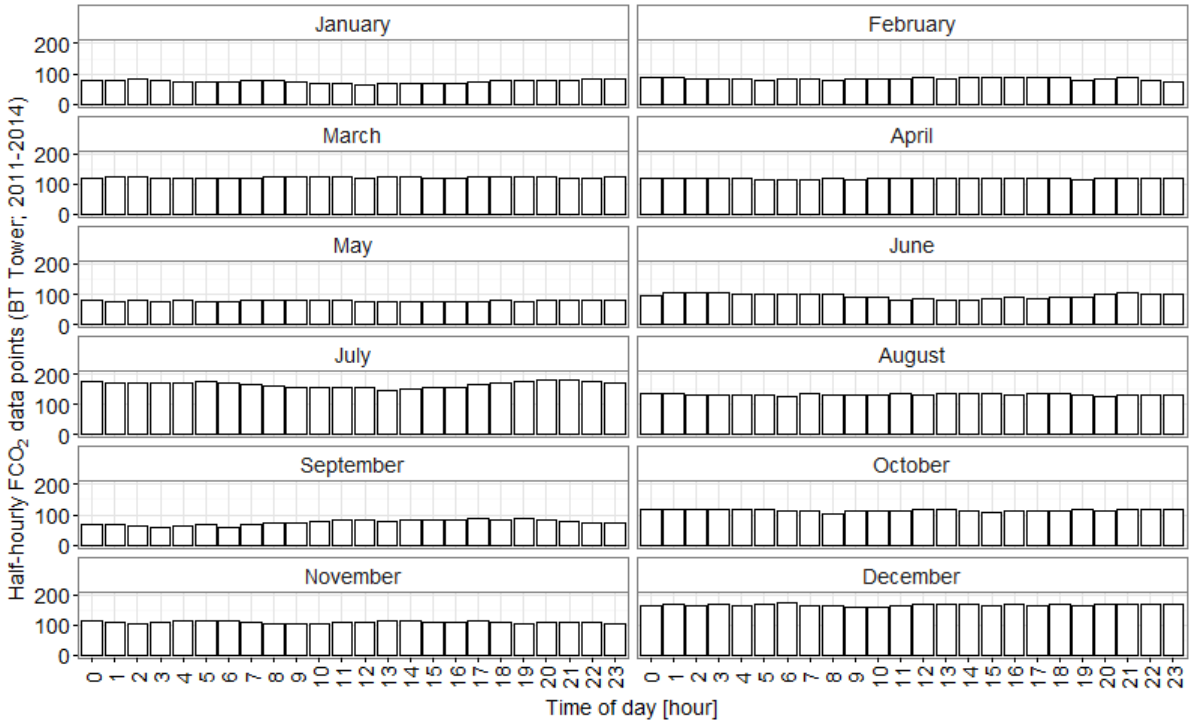

Figure S11: total number of half-hourly carbon dioxide flux data points measured at the BT tower over the period 15/09/2011 – 31/12/2014.

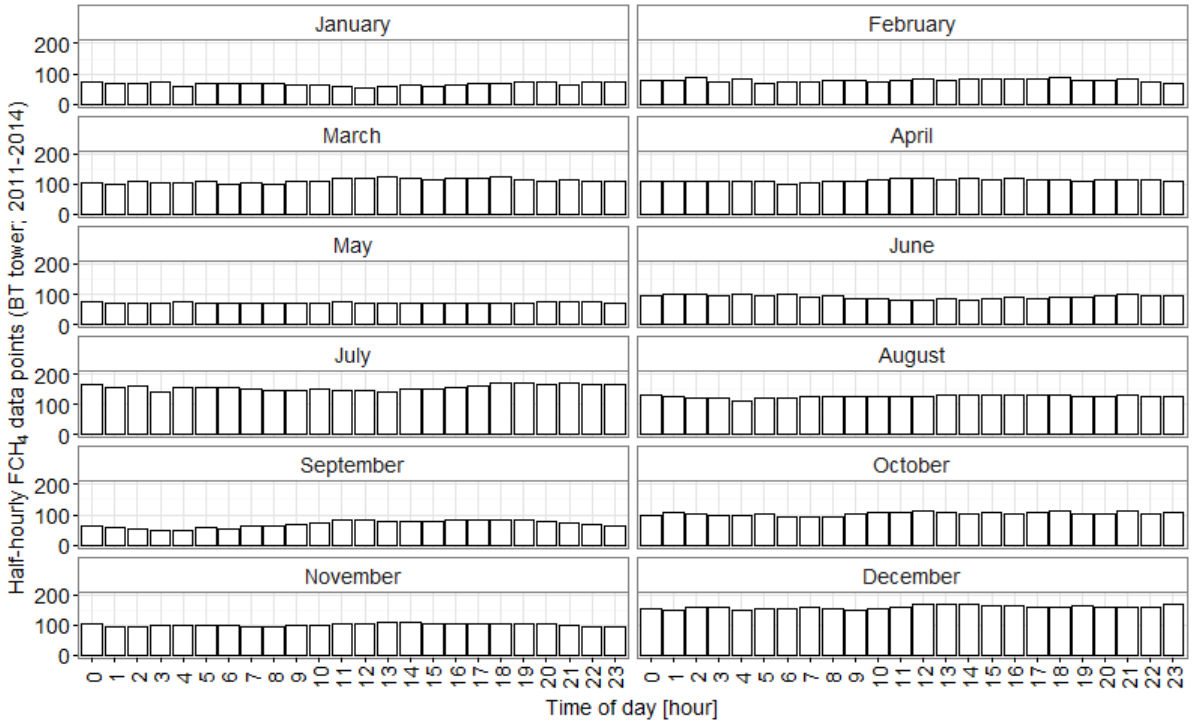

Figure S12: total number of half-hourly methane flux data points measured at the BT tower over the period 15/09/2011 – 31/12/2014.

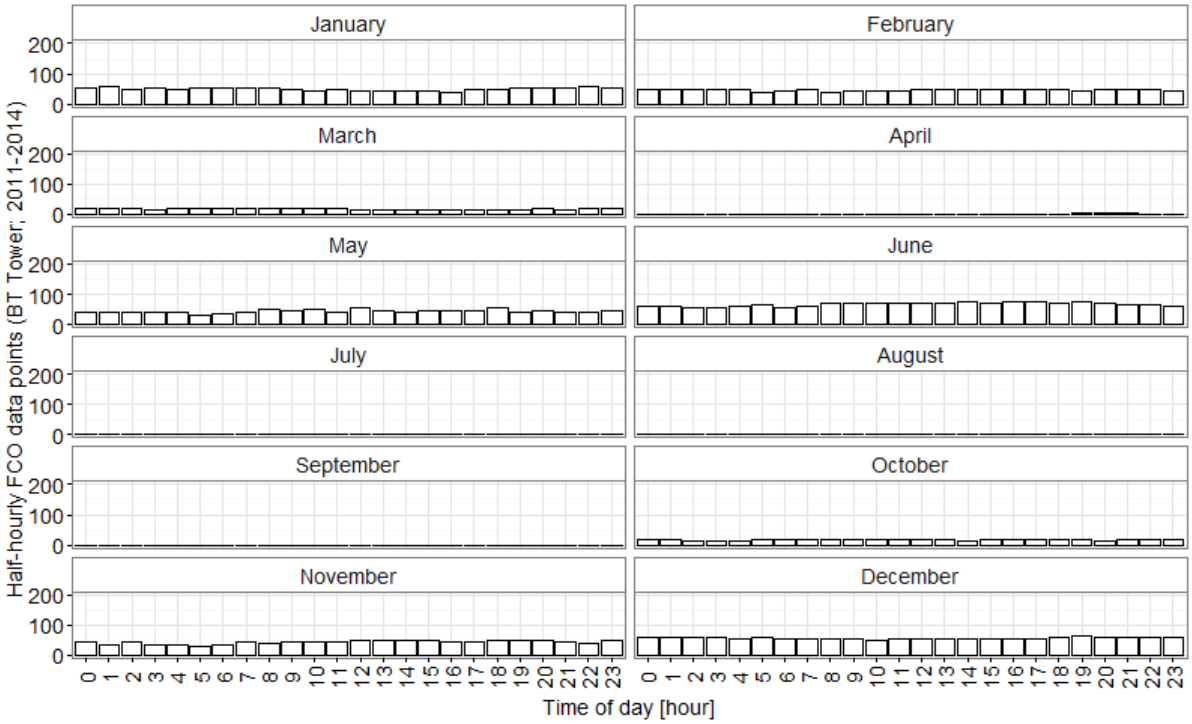

Figure S13: total number of half-hourly carbon monoxide flux data points measured at the BT tower over the period 15/09/2011 – 31/12/2014.

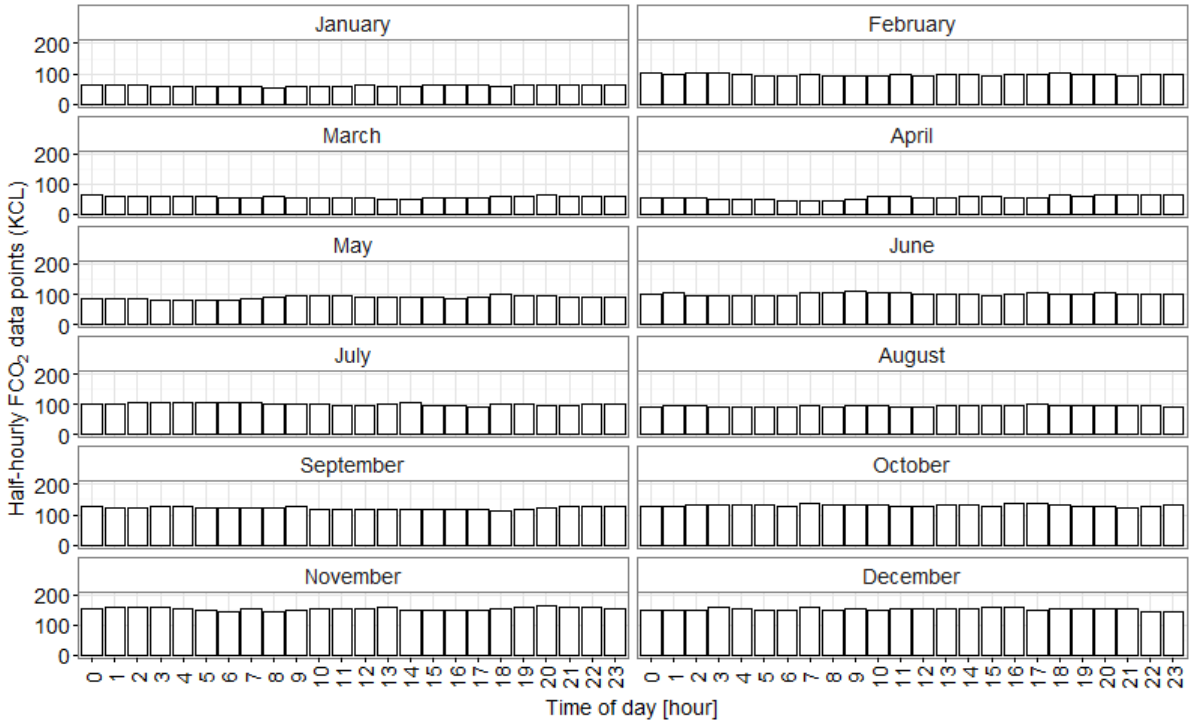

Figure S14: total number of half-hourly carbon dioxide flux data points measured at the BT tower over the period 15/09/2011 – 31/12/2013.