

Interactive comment on “Urban source term estimation for mercury using a boundary-layer budget method” by Basil Denzler et al.

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Golston's comment in bold, reply in plain text

A revised and highlighted version of the manuscript is available in the supplementary material.

One specific comment: what is the height above ground for the NABEL measurement?

The height above ground is 2 m. A remark has been added to the manuscript.

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comment

A homogeneously mixed assumption is mentioned on Page 4, but is this really justified, or simply is necessary since there is only one measurement location available? In the vertical, the stratified atmospheric inversion conditions could lead to error/bias when using a (presumably near surface) concentration monitor; the incinerator chimney source which is at 90 m also may not be represented by the measured GEM and lead to errors in the emissions estimate.

We acknowledge this remark. A homogeneously mixed air compartment is in fact a prerequisite to our model since we have only one measurement just above ground and below the boundary layer. Golston correctly pointed this out and we have thus specified this point in the model description (page 4, line 32). A possible stratification of the lower air masses, therefore, is a source of uncertainty to our model study.

Please also note the supplement to this comment:

<https://www.atmos-chem-phys-discuss.net/acp-2018-402/acp-2018-402-AC3-supplement.pdf>

Interactive comment on *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2018-402>, 2018.

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