

## ***Interactive comment on “Black Carbon, Organic Carbon, and Co-Pollutants Emissions and Energy Efficiency from Artisanal Brick Production in Mexico” by Miguel Zavala et al.***

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Received and published: 15 January 2018

Comments on manuscript: acp-2017-1154, Atmospheric Chemistry and Physics Worldwide communications/publications on the environmental properties of brick kiln burns are progressively more detailed (in the sense of number of environmental pollutants measured) and analytic, this paper follows this pattern. Nevertheless, the authors mention a problem of which this reviewer is quite aware and which represents the primary weak point of this paper: variability between burns for a number of reasons, mentioned too briefly in this paper. This variability has been noted in other papers of the author's recent reviews, in kiln research from South Africa and Vietnam, for exam-

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ple. For this paper the problem is more severe than for the others since only one burn for each of several variations of kilns was performed. Either the procedures / materials / specific construction must be specified or...a number of complete burns must be monitored to be definitive about various features and quantities...anything less is not definitive of the characteristics. What can be done? The authors can make the point more clearly that this represents a sampling and is not a definitive comparative description: to compare, fuel/stacking/similar clays/ brick additives/feeding procedures or knowledge of aging of the kilns (# of previous burns in the same kiln) were not standardized nor described. Complete burns On other issues: 1. Sampling downstream: many papers have made attempts to quantify dispersion in two dimensions. I have to think that they do not understand dispersion theory, another very poorly defined result. Could have been done much better. Next time profile the downwind cross section using instrumented drones or other methods to be more definitive. Just not worthwhile as performed here. 2. What supplemental documents? This article should stand on its own or on previous publications. 3. Data on the MK2 will depend on development in three defined intervals; pre-switch, transition to coupled kilns and final the coupled burn...all very distinct and not even discussed. Frequency of sampling? Quality of temporal integration? 4. Chemistry: nicely done and informative... Just with the previous concerns for representation. 5. Temperature profiles were puzzling, too sparse to analyze. 6. Spatial representation of the outflow requires time to average in each location. Uncertain how well performed. Like many points is undefined. In summary, should be presented as a first try at comparison but not as definitive.

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2017-1154>, 2017.

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