

Full Report on Innovative Study Now Available –

LA Oil Refineries’ VOC & Benzene Emissions Grossly Underestimated

Last December 2016, a study was unveiled at the American Geophysical Union (AGU). The full report just came out (4/11/2017). We received a copy by email, but have not yet seen it posted by the AQMD. *The joint Swedish and SCAQMD study clearly demonstrates that standard methods used by the District for estimating or modeling refinery emissions drastically underestimates emissions.* [Southern California Public Radio originally reported on this important issue last December.](#) In addition, here is the abstract from the [AGU conference in December 2016.](#)

CBE received a copy of this report,¹ including the following key results. The study did not name individual refineries except as A, B, C, D, E, & F, but it did provide maps of the locations monitored, and the crude oil capacity of each refinery, so we could determine their identities:

Ratio of measured emissions to reported emissions (p. 94)	How much higher were VOCs?	How much higher was Benzene?
Refinery A - Tesoro Carson/Wilmington²	6.4 times	43 times
Refinery B & C (Phillips 66 Carson & Wilmington respectively)	8.3 to 12 times	33 to 202 times
Refinery D – Valero Wilmington	11 times	39 times
Refinery E – Chevron El Segundo	5.4 times	38 times
Refinery F – Torrance Refinery	2.7 times	3.2 times
All LA Refineries	6.2 times	34 times

- CBE applauds the SCAQMD for working jointly with the Swedish monitoring experts to carry out this extremely important study using innovative optical sensing.
- **We urge updating emissions inventories by the SCAQMD, and all Air Quality agencies in the state, including the California Air Resources Board** to account for the severe underestimations of air pollutants including VOCs and BTEX compounds found in this report. (It is highly likely that refineries in other parts of the state also underreport.)

For more information, or a copy of the FluxSense report, contact Julia May, Senior Scientist, CBE (julia@cbeval.org).

¹ ***Emission Measurements of VOCs, NO2 and SO2 from the Refineries in the South Coast Air Basin Using Solar Occultation Flux and Other Optical Remote Sensing Methods***, Final Report, FluxSense Inc, 11 April 2017, Authors: Johan Mellqvist, Jerker Samuelsson, Oscar Isoz, Samuel Brohede, Pontus Andersson, Marianne Ericsson, John Johansson

² The FluxSense report only included 257,000 barrels per day of crude capacity for Refinery A (Tesoro) in the report. This leaves out crude capacity of the Wilmington side (about 100,000 barrels per day), so it is unclear if Wilmington was included.

