

## **Paper-JT- 054: Air Pollutant Emissions in Batam: An Overview**

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### **ABSTRACT**

This paper aims at providing high quality air pollutant emissions analysis, so that policy makers have reliable information in shaping environmental priorities. The study was conducted in Batam, a special economic zone that is packed by industries. Emissions of NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and HC were estimated using the 2013 EMEP/EEA methods and those of CO<sub>x</sub> were estimated using the 2006 Intergovernmental Panel on Climate Change (IPCC) guidelines, both were tier 2 methods where applicable. We found that powerplants, large-scale heavy industries metals and mobile sources were important emission sources, while area sources such as hotels, hospitals, restaurants, universities, banks, malls, vehicle repairs, housings, gas stations, facilities under constructions, landfills, and electronics manufacturing companies contributed much less significantly to the total emissions. By mapping all sources, we found that the air pollutant sources densely populated along the main streets. Conclusively, this paper recommends some measures to improve the overall air quality in Batam.

**Keywords:** inventory emissions, air pollutant, air quality, Batam, Geographical Information System (GIS)