



High-Resolution Atmospheric Emission Inventory of the Argentine Energy Sector

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This study presents a high-resolution spatially disaggregated inventory (2.5 km x 2.5 km), updated to 2014, of the main emissions from energy activities in Argentina. This inventory was created with the purpose of improving air quality regional models. The sub-sectors considered are public electricity and heat production, cement production, domestic aviation, road and rail transportation, inland navigation, residential and commercial, and fugitive emissions from refineries and fuel expenditure. The pollutants considered include greenhouse gases and ozone precursors: CO₂, CH₄, NO_x, N₂O VOC; and other gases specifically related to air quality including PM₁₀, PM_{2.5}, SO_x, Pb and POPs. The uncertainty analysis of the inventories resulted in a variability of 3% for public electricity generation, 3-6% in the residential, commercial sector, 6-12% terrestrial transportation sector, 10-20% in oil refining and cement production according to the considered pollutant. Aviation and maritime navigation resulted in a higher variability reaching more than 60%. A comparison with the international emission inventory EDGAR shows disagreements in the spatial distribution of emissions, probably due to the finer resolution of the map presented here, particularly as a result of the use of new spatially disaggregated data of higher resolution that is currently available.