

ST18: Methodologies to improve urban emission inventories with high spatial resolution. This tool relies first on the analysis of in-situ and remote sensing data obtained in STs 1-8 data. By comparing urban modeling and implementing sensitivity analysis it is possible to confront with experimental data and conclude on uncertainties in urban emission inventories. ST13 also includes a generic tool consisting in downscaling European scale inventories using higher resolution information available over target cities. The last component of ST13 is a methodology for the inter-comparison between the downscaled European-wide inventories and independent bottom-up inventories collected for a total of 13 urban areas, including 10 RI-URBANS pilot cities.

The linked resources for this ST include:

- 1) D17 (D3.2) Methodology to improve European urban emission inventories
https://riurbans.eu/wp-content/uploads/2022/07/RI-URBANS_D17_D3.2.pdf.
- 2) M14 (M3.3) Top-down and bottom-up estimation of city scale emission inventories. The comparison assesses the consistency between local city and regional NO_x, NMVOC, PM₁₀ and PM_{2.5} emission estimates for the road transport and residential/commercial combustion sectors, both in terms of total annual emissions and their spatial distribution at 1x1km² resolution. The results of this inter-comparison are meant to provide feedback to TNO and NOA, which are responsible for the development of a European gridded anthropogenic emission inventory and of the downscaling methodology and tool, which provides 1x1km² zooms over the pilot cities.
https://riurbans.eu/wp-content/uploads/2023/10/RI-URBANS_M14.pdf.