

Department of Environmental Sciences DEI Seminar

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## Urban Methane Emissions from London, UK and Bucharest, Romania

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It has been recommended that anthropogenic methane emissions should be reduced 45% by 2030 to slow increasing rates of atmospheric temperature, and to avoid adverse feedbacks of climate warming. Urban methane studies show significant methane emissions attributed to city infrastructure, e.g. the gas distribution network, unveiling opportunities for mitigating emissions. Extensive mobile surveys conducted in Greater London and Bucharest, Romania between 2018 and 2019 measured street-level methane mole fractions to locate areas where levels were above atmospheric background, known as a leak indicator (LI). LIs were analyzed for  $C_2:C_1$  ratios and  $\delta^{13}CCH_4$  for emission source apportionment. Both London and Bucharest had the largest natural gas leak densities and emission factors compared to other surveyed European cities. London and Bucharest had different dominating emission sources, with London emissions mostly from gas pipeline leaks, while Bucharest had a higher proportion of emissions from wastewater. This research will help local governments prioritize methane mitigation strategies to fall in line with the 45% methane reduction target.

