

# NPL Activities in Urban Emissions

Tom Gardiner

BIPM Workshop on Global to Urban  
Scale Carbon Emissions

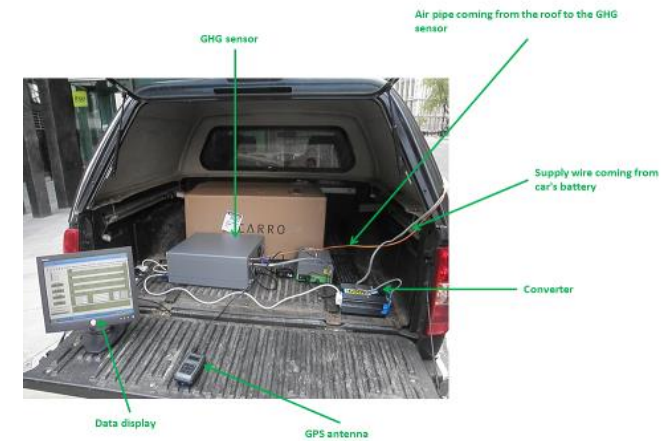
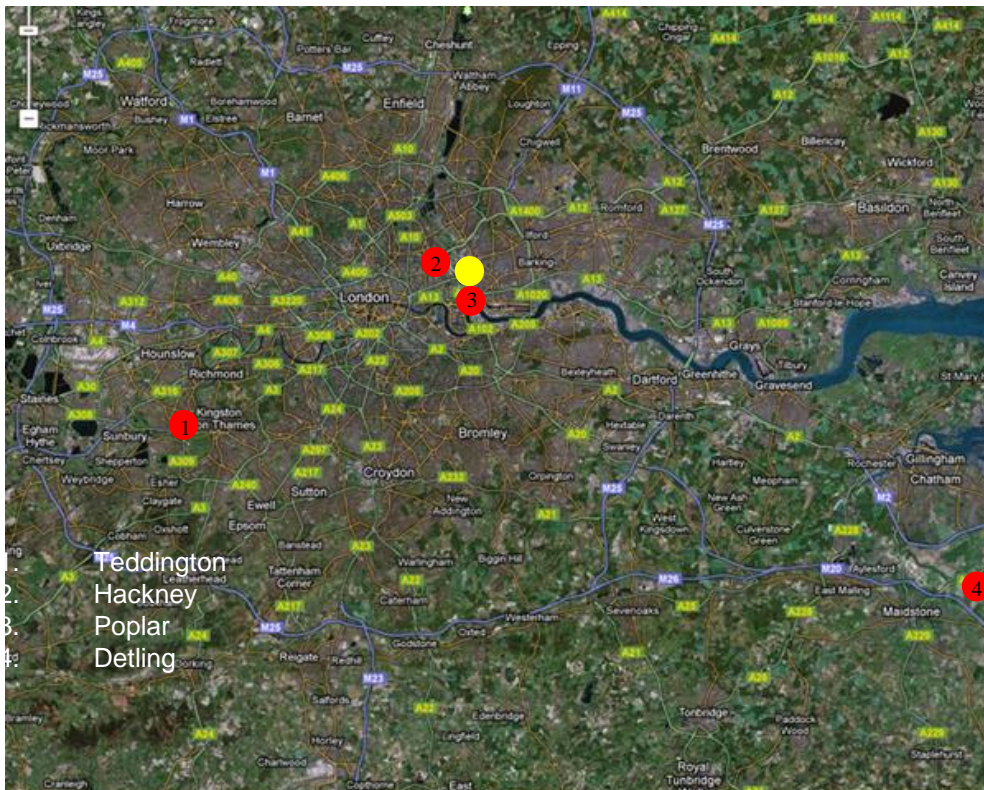
1<sup>st</sup> July 2015

# Contents

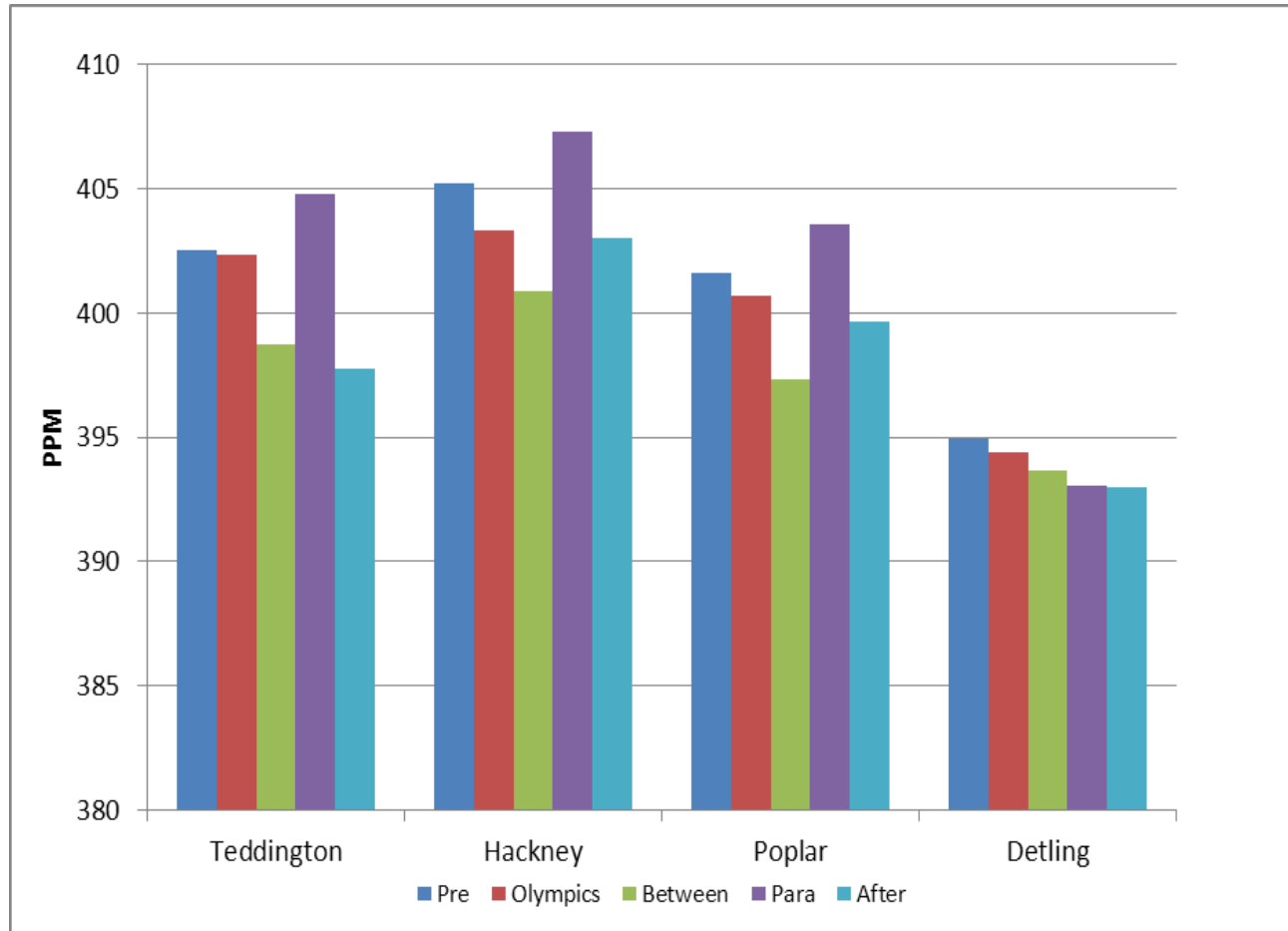
- London demonstrator project
- Regional emissions with tall tower network
- City GHG Inventory Verification

# London demonstrator project, Summer 2012

- 4 fixed sites across London plus mobile measurements on bus, truck and aircraft
- Data analysis and interpretation being carried out by LSCE and the University of Reading.

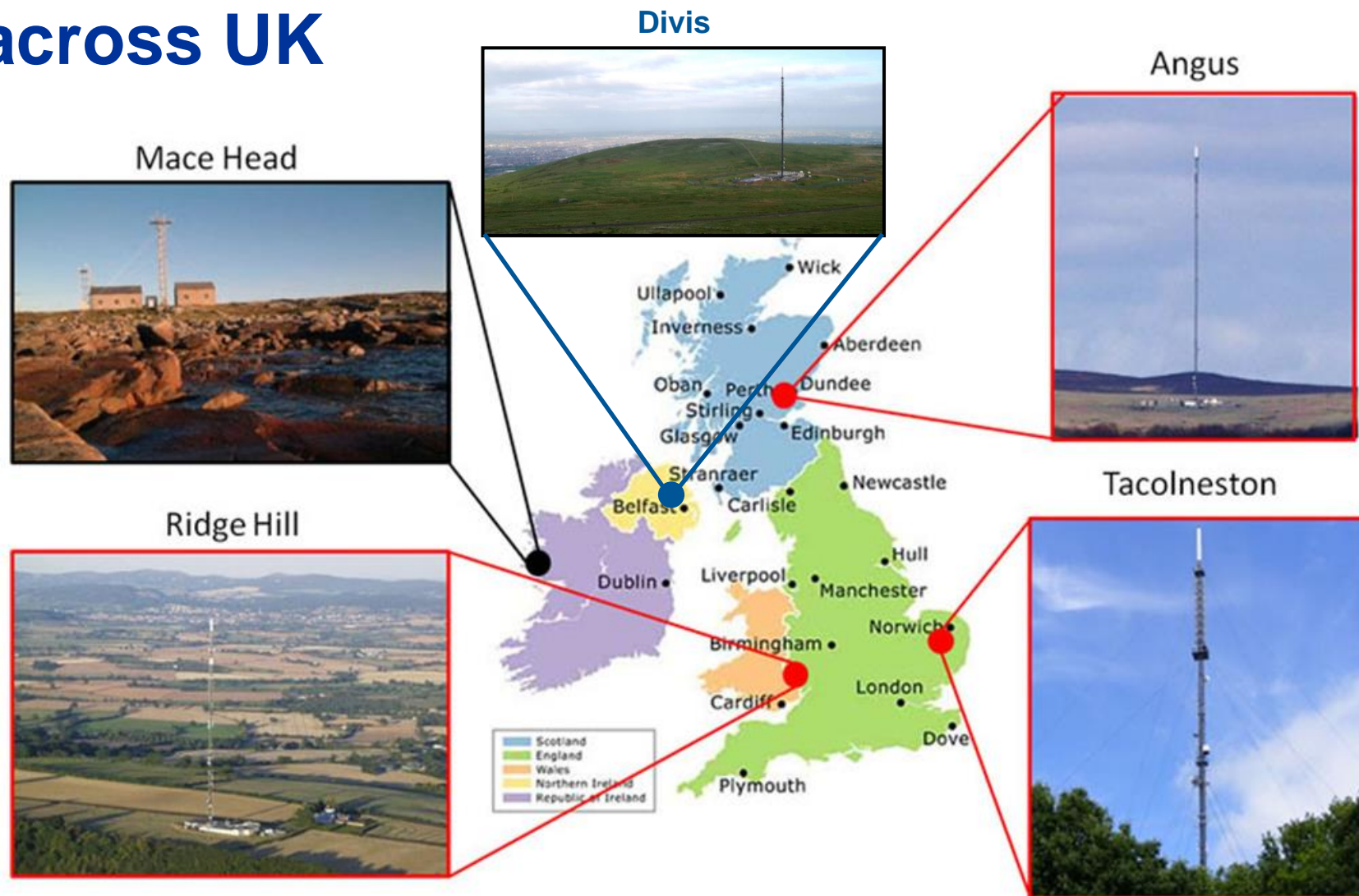


# CO<sub>2</sub> levels during London Olympics





# Tall tower measurements across UK



The DECC Greenhouse Gas Measurement Network

+ Airbus / NPL site at Divis

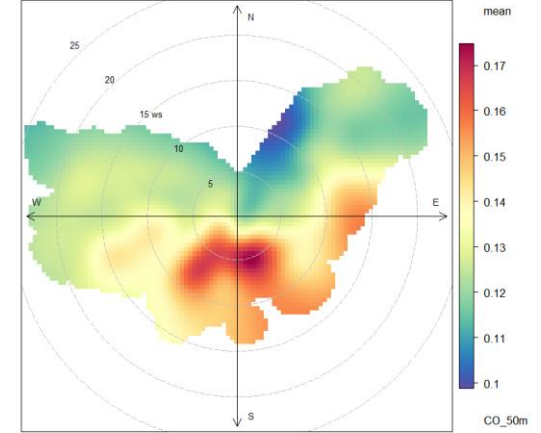
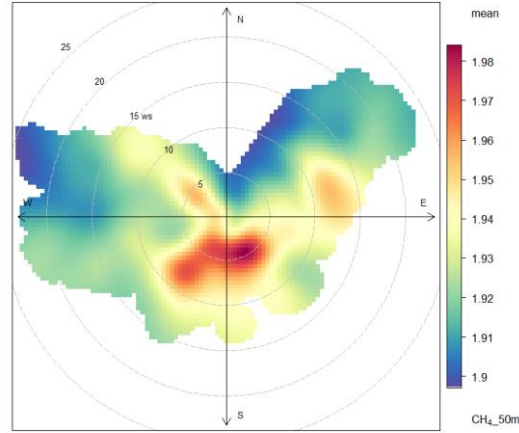
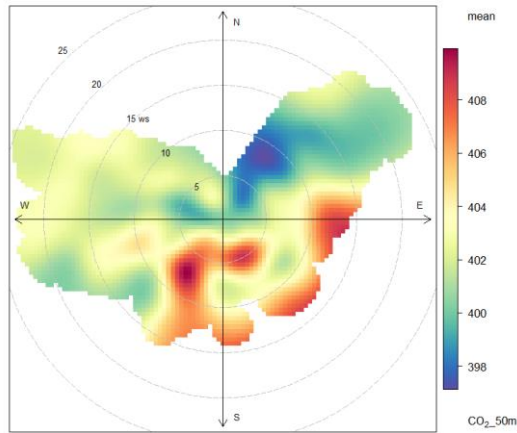
# Spatial distribution of emissions

CO<sub>2</sub>

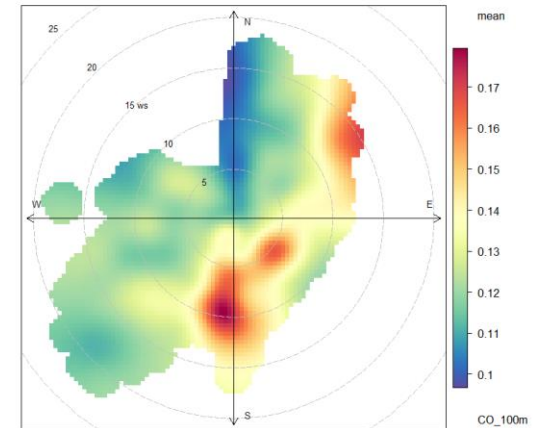
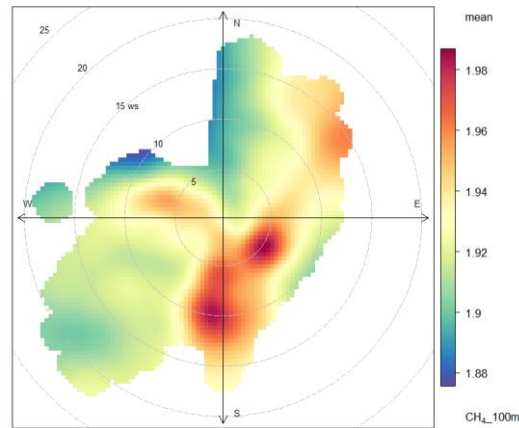
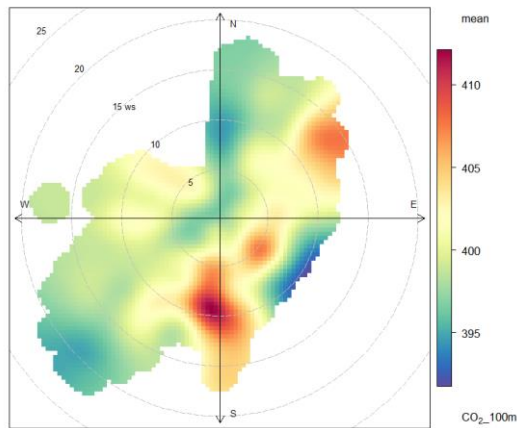
CH<sub>4</sub>

CO

50 m



100 m



# City GHG Inventory Verification

- NPL is developing tools designed to help manage and improve city scale inventories.
- Assess compliance with Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC)
  - sector/sub-sector assessment against Basic/Basic+/Expanded inventory levels.
  - Data quality and uncertainty assessment
- Analysis to identify and investigate areas for potential improvement within the inventory
  - Sensitivity analysis and Monte Carlo simulations to provide objective assessment of contributions of individual components to the overall inventory.