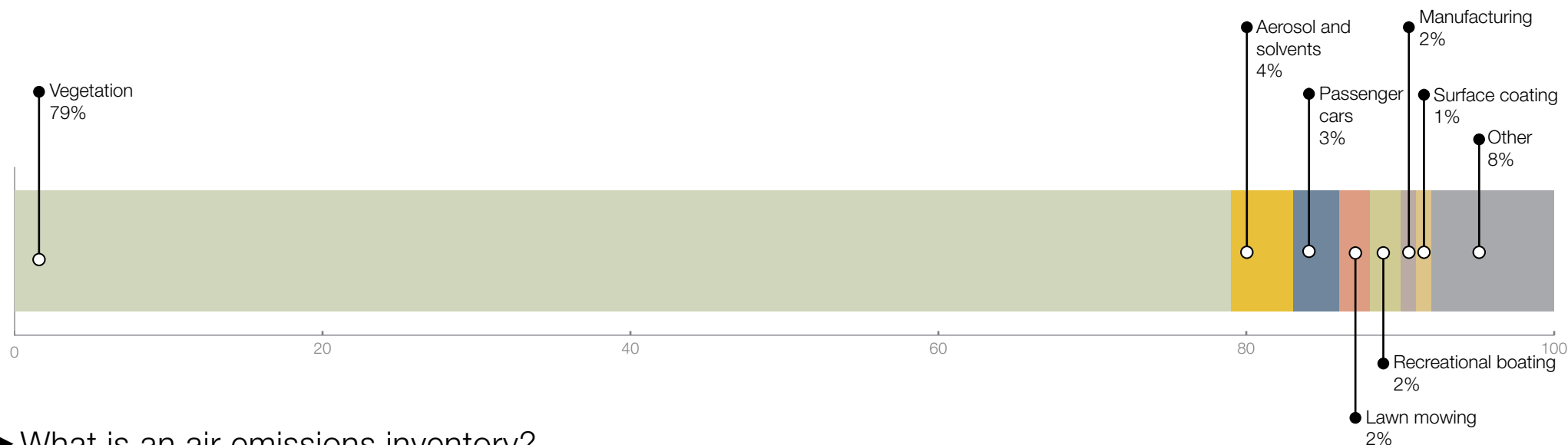




## Perth Air Emissions Study 2011–2012: Volatile organic compounds (VOC)

The Perth Air Emissions Study 2011–2012 estimated emissions from natural and man-made sources, and assessed the significance of these emissions. Emissions were also spatially allocated to identify major emission source areas.

Volatile organic compounds (VOC) are organic chemical substances that readily evaporate under normal atmospheric conditions. VOC emissions come from natural and man-made sources, and vary in toxicity depending on the composition and exposure. VOC chemistry in the atmosphere is a key factor in the production of smog over Perth.



### ► What is an air emissions inventory?

Air emission inventories assess the emissions that occur in an area. While some emissions are measured directly, others are estimated by combining activity data with scientifically developed emission factors.

### ► Biggest volatile organic compounds source?

Vegetation produced 79% of all VOC emissions.

Vegetation VOCs are what give plants their distinctive aromas. 'Blue haze' can be seen over large areas of eucalyptus forest during summer.

Domestic use of aerosols and solvents was a major source of VOC emissions. While not as large as vegetation emissions, domestic VOC emissions were more concentrated in areas with greater population and dwelling density.

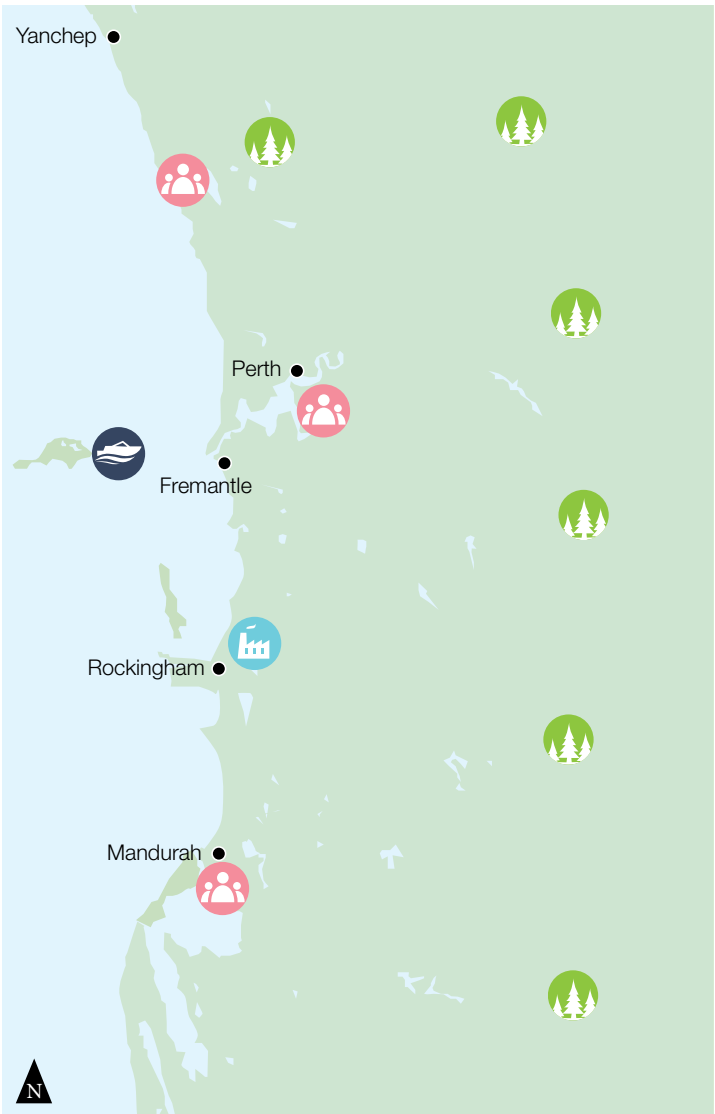
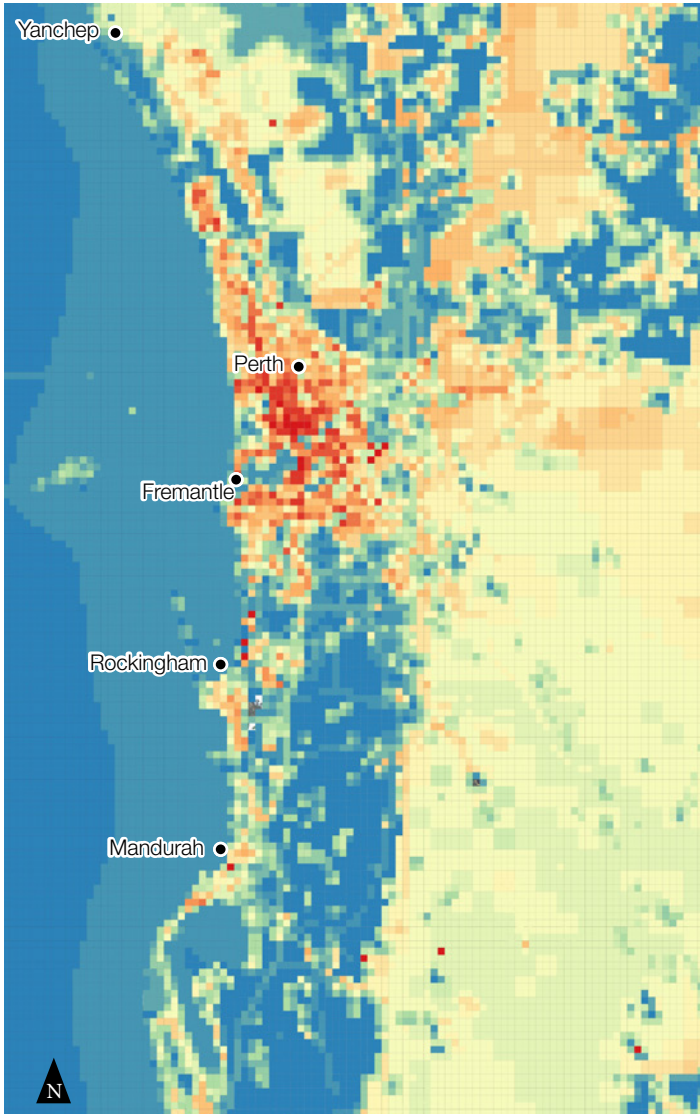
On-road vehicles were also a large source of VOC, with petrol vehicles producing significantly more than diesel vehicles. The largest source of VOCs from on-road vehicles was from petrol passenger cars, with evaporation of fuel from the tank and fuel lines making up nearly half the on-road vehicle VOCs emitted.

### ► For more information





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Contact: [npi@dwer.wa.gov.au](mailto:npi@dwer.wa.gov.au)

# Emission Hotspots



## Legend

-  Marine VOC emissions are the result of commercial and recreational boating activities.
-  The Kwinana Industrial Area contains several heavy industries reporting to the National Pollutant Inventory, which are major sources of VOC.
-  VOC emissions are more intense the more urbanised an area is.
-  Vegetation emissions cover most of the area.

