

# Dyson investigates air quality Adelaide, Australia

## Participant

Annette Edmondson

## Social channel

@nettieedmo

## Sport

Cycling

Annette wore Dyson's prototype air quality backpack during her daily routine in Adelaide. The air quality backpack measures personal exposure to pollutants including PM2.5, VOCs and NO<sub>2</sub>. During this time frame, activities such as travelling by car and going to the gym contributed to pollution events that were identified by the air quality backpack. Athletes are often very conscious of their wellbeing and understand the impact that exercise and eating can have on their health. Using the air quality backpack further highlights how daily activities can impact wellbeing and affect our personal air pollution exposure.

## Pollutants identified

### PM2.5

Microscopic particles smaller than 2.5 microns including smoke, bacteria and allergens.

PM2.5

### Nitrogen Dioxide (NO<sub>2</sub>)

Potentially harmful gases, released by combustion. Sources include cigarette smoke, candles and gas stoves.

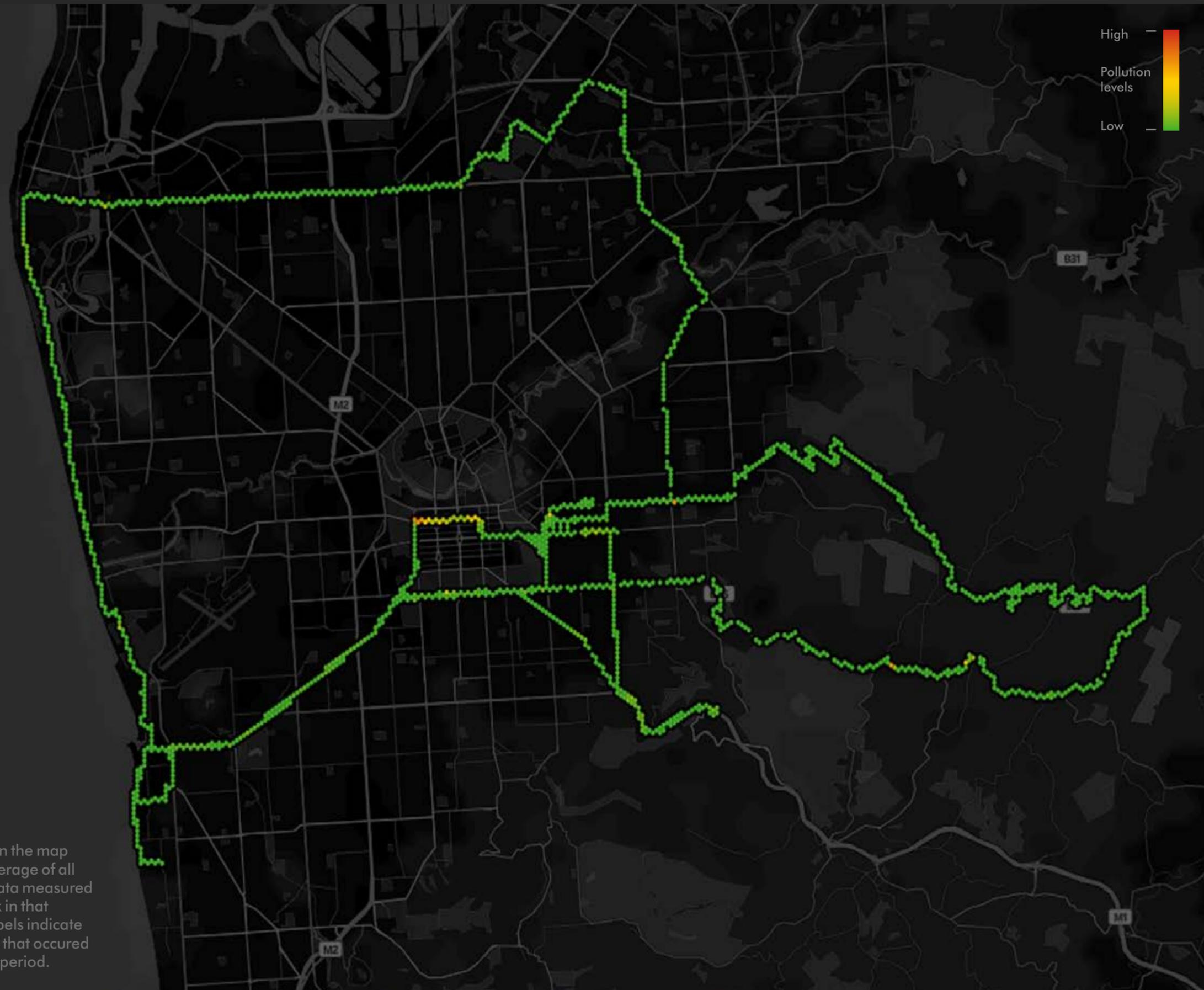
NO<sub>2</sub>

### Volatile Organic Compounds (VOCs)

Gases released from a wide range of sources such as aerosol sprays and air fresheners. They include formaldehyde and benzene, household fumes and odours.

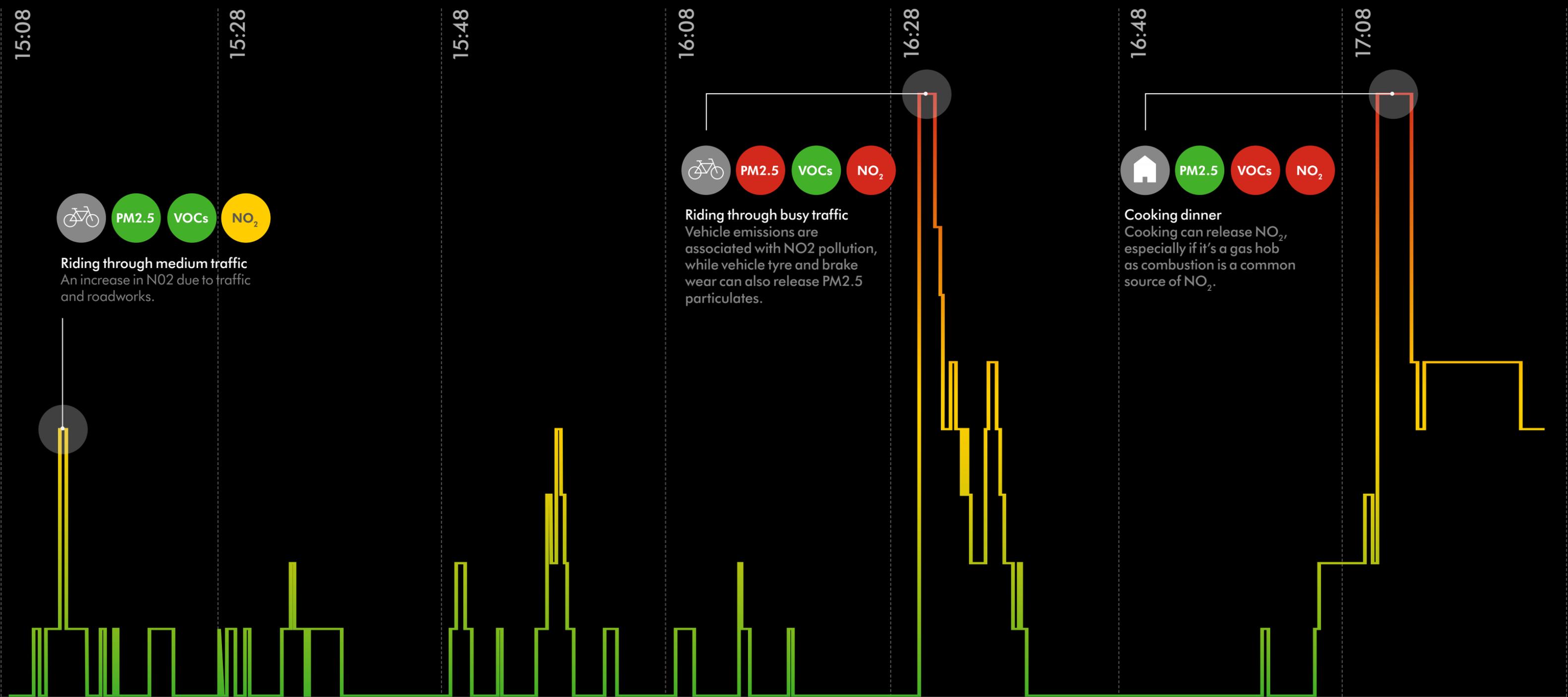
VOCs

The hexagons on the map represent an average of all the air quality data measured by the backpack in that location. The labels indicate pollution events that occurred within that time period.



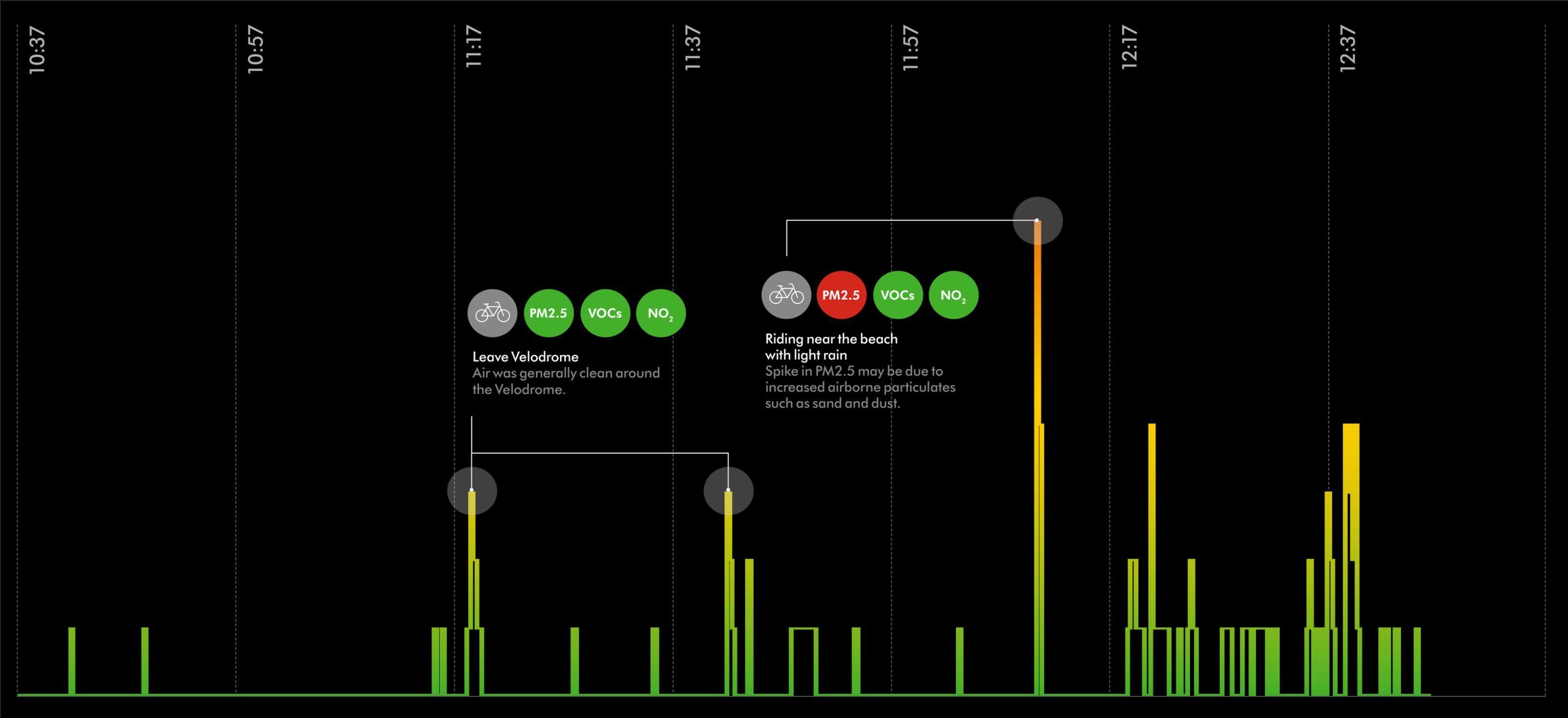
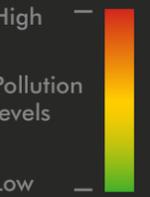
# Impact of daily activities on personal exposure to air pollution (Day 1)

Detailed breakdown of all pollutants measured by the air quality backpack



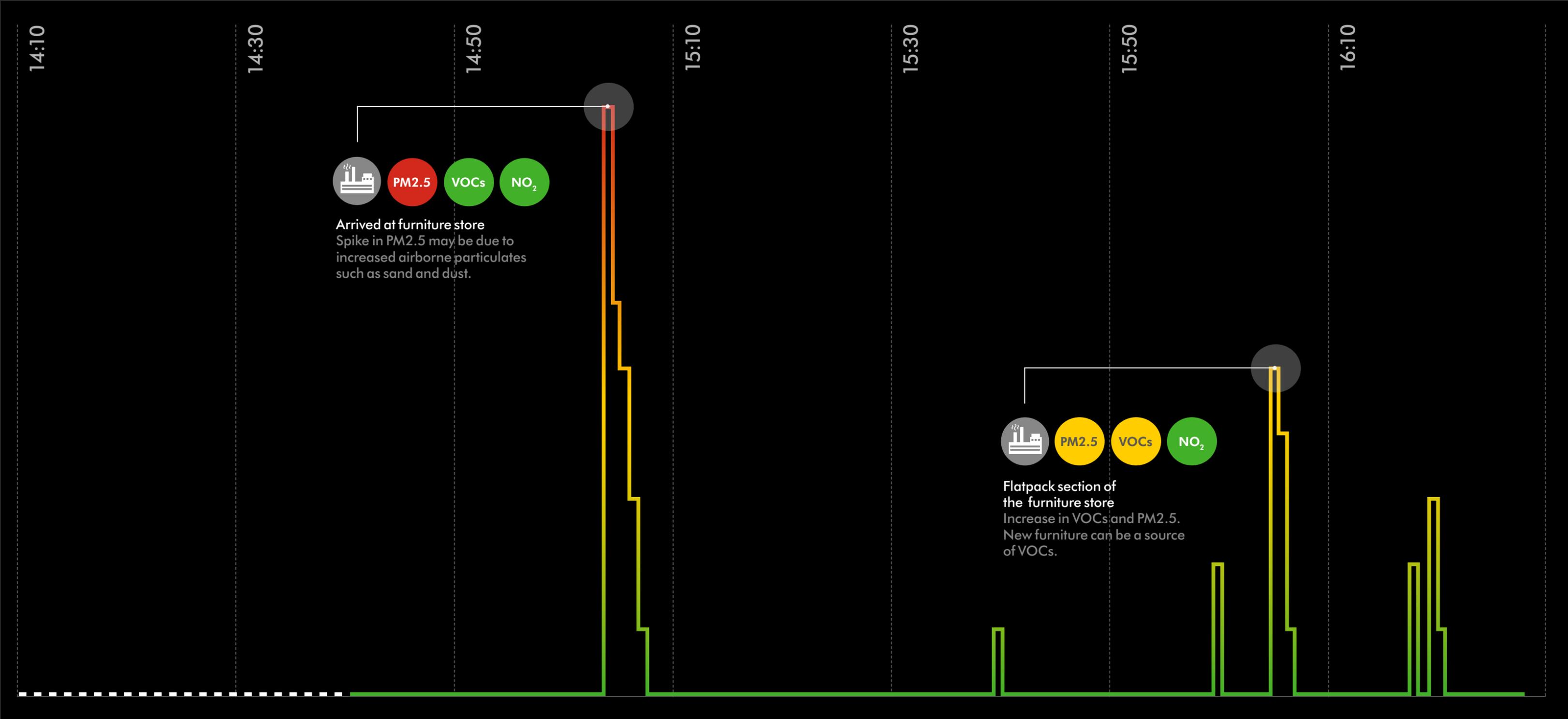
# Impact of daily activities on personal exposure to air pollution (Day 2)

Detailed breakdown of all pollutants measured by the air quality backpack



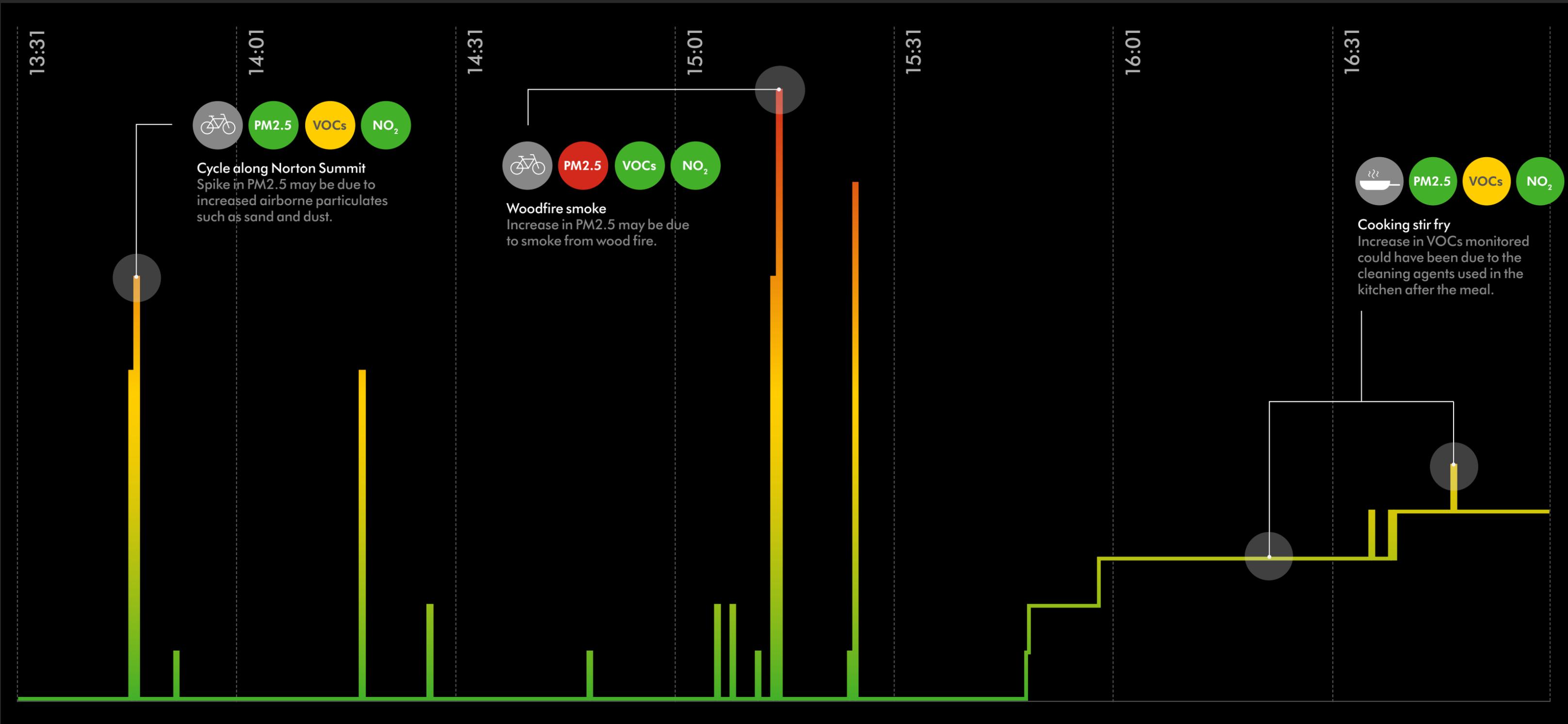
# Impact of daily activities on personal exposure to air pollution (Day 3)

Detailed breakdown of all pollutants measured by the air quality backpack



# Impact of daily activities on personal exposure to air pollution (Day 4)

Detailed breakdown of all pollutants measured by the air quality backpack



13:31

14:01

**Cycle along Norton Summit**  
Spike in PM2.5 may be due to increased airborne particulates such as sand and dust.

14:31

15:01

**Woodfire smoke**  
Increase in PM2.5 may be due to smoke from wood fire.

15:31

16:01

16:31

**Cooking stir fry**  
Increase in VOCs monitored could have been due to the cleaning agents used in the kitchen after the meal.

## Top tips

### What can you do?

**It can be difficult to avoid air pollution in cities when there is a city-wide pollution event as the source is likely out of your direct control.**

**However, there are some simple actions you can take as part of your daily routine to reduce your exposure to potential pollution sources.**

#### Public spaces



Check the air pollution forecast in areas you plan to visit to help you avoid activities that might cause increased exposure. This is particularly useful if there's going to be a city-wide pollution event.

If there is a city-wide pollution event, try to stay indoors and make sure windows are closed. If possible, use a purifier to help capture pollutants.

Be aware that even green spaces in cities may still have high levels of pollution, so try to travel out of the city when possible to spend time in less polluted spaces.

#### Travelling



Choose quieter roads away from heavy traffic to help reduce exposure to pollution caused by vehicles.

Spend less time in polluted environments such as stationary traffic to help reduce overall exposure.

If travelling on a busy road, ensure car windows are closed to minimise the chance of polluted air entering the vehicle.

#### Industrial areas



Be aware that there are some areas prone to worse air quality due to industrial activities.

Understand how weather can play a part in pollution exposure, as wind may blow airborne pollution in different directions.

#### Indoor pollution



Where possible, remove or reduce pollution sources like candles and dust in your home.

Ventilate your home when outdoor pollution is low and keep windows closed when it's high.

Consider using a purifier to help capture particle and gas pollutants in the home.

#### Cooking and dining



Method, length of time and what you're cooking can all affect the build up of pollutants. Be mindful of this when trying to reduce exposure.