

A HERETIC IN A BROKEN WORLD

Respiratory Innovation Wales Team



30, 240

15, 840

10, 080

3





A movie poster for 'The Martian' featuring Matt Damon in a space helmet. The background shows a Martian landscape with a rover and a small structure in the distance. The text is overlaid on the right side of the image.

HELP IS ONLY
140 MILLION
MILES AWAY

MATT DAMON

THE MARTIAN

BWS ELECTRIC HED ALLYRIAD

CMP
CARPENTRY LTD

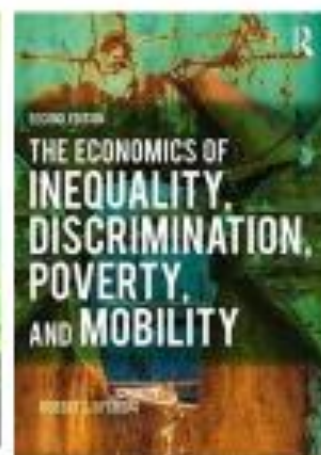
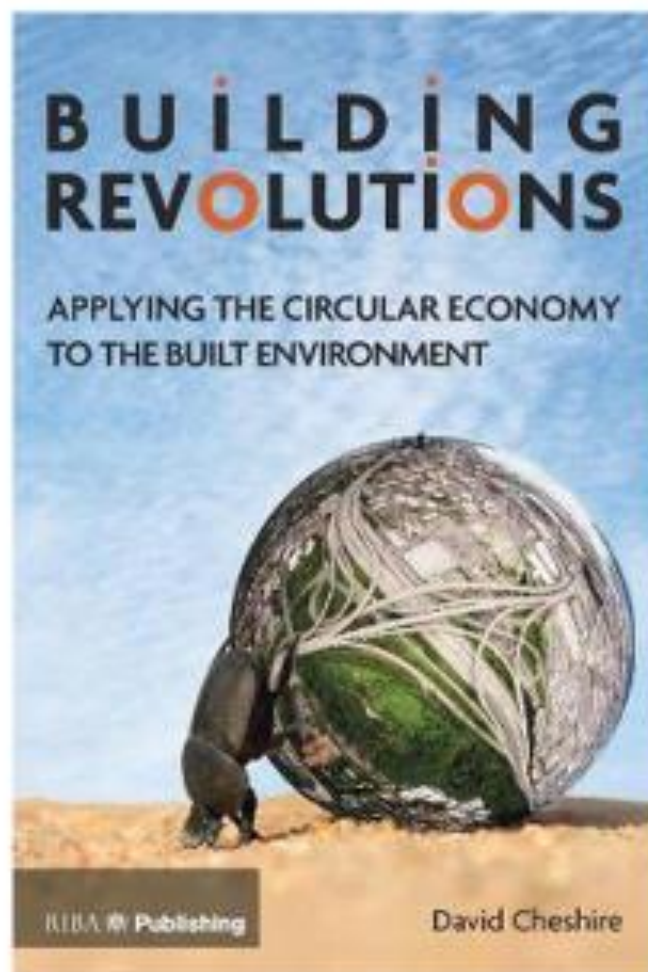
VU69 HKL

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bob 7 mun

Llaneirwg | Trowbridge | Canol y Ddinas

4&45 dinas electric



[AS INTRODUCED]

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Schedule – Healthy Homes Commissioner

[AS INTRODUCED]

A

BILL

TO

Make provision for the delivery of healthy homes and neighbourhoods; to set out the principles that define a “healthy home”; to establish the office of the Healthy Homes Commissioner; and for connected purposes.

BE IT ENACTED by the Queen’s most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1 Duty on the Secretary of State

It is the duty of the Secretary of State to secure the health, safety, wellbeing and convenience of persons in or about buildings and of others who may be affected by buildings or matters connected with buildings in England.

2 Policy statement on healthy homes principles

- (1) The Secretary of State must prepare a statement in accordance with this Act (the “policy statement on healthy homes principles”).
- (2) The statement must explain how the healthy homes principles are to be interpreted and applied by Ministers of the Crown in making, developing and revising their policies.
- (3) The statement may explain how the principles will be implemented and adhered to in a way that takes account of a building development’s urban, suburban or rural location.

3 Meaning of “healthy homes principles”

- In this Act “healthy homes principles” means the principles that—
- (a) all new homes should be safe in relation to the risk of fire,
 - (b) all new homes should have, as a minimum, the liveable space required to meet the needs of people over their whole lifetime, including adequate internal and external storage space,
 - (c) all main living areas and bedrooms of a new dwelling should have access to natural light,
 - (d) all new homes and their surroundings should be designed to be inclusive, accessible, and adaptable to suit the needs of all, with

- particular regard to protected characteristics under the Equality Act 2010.
 - (a) all new homes should be built within places that prioritise and provide access to sustainable transport and walkable services, including green infrastructure and play space.
 - (b) all new homes should secure radical reductions in carbon emissions in line with the provisions of the Climate Change Act 2008.
 - (c) all new homes should demonstrate how they will be resilient to a changing climate over their full life time.
 - (d) all new homes should be secure and built in such a way as to minimise the risk of crime;
 - (e) all new homes should be free from unacceptable and intrusive noise and light pollution;
 - (f) all new homes should not contribute to unsafe or illegal levels of indoor or ambient air pollution and must be built to minimise, and where possible eliminate, the harmful impacts of air pollution on human health and the environment; and
 - (g) all new homes should be designed to provide year-round thermal comfort for inhabitants.
- 4 Policy statement on healthy homes principles: process
- (1) The Secretary of State must prepare a draft of the policy statement on healthy homes principles.
 - (2) The Secretary of State must consult such persons as the Secretary of State considers appropriate in relation to the draft statement.
 - (3) The Secretary of State must lay the draft statement before Parliament.
 - (4) If, before the end of the period of 21 sitting days beginning with the day after the day on which the draft statement is laid—
 - (a) either House of Parliament passes a resolution in respect of the draft, or
 - (b) a committee of either House, or a joint committee of both Houses, makes recommendations in respect of the draft,
 the Secretary of State must produce a response and lay it before Parliament.
 - (5) The Secretary of State must lay before Parliament, and publish, the final statement, but not before—
 - (a) if subsection (4) applies, the day on which the Secretary of State lays before Parliament the response required by that subsection, or
 - (b) otherwise, the end of the period of 21 sitting days beginning with the day after the day on which the draft statement is laid before Parliament.
 - (6) The Secretary of State may revise the policy statement on healthy homes principles at any time (and this section applies in relation to any revised statement).
 - (7) “Sitting day” means a day on which both Houses of Parliament sit.

Actions for local authorities

Checking people's homes and giving advice

Use inspections and home visits to identify poor indoor air quality.

Staff who visit people's homes should:

- know about sources of indoor air pollutants and their effects on health
- give advice on avoiding activities that increase pollutants and improving ventilation (see below)
- know who can provide help with repairs and necessary improvements
- give advice on requesting a housing assessment if poor indoor air quality is suspected.

Advise private and social tenants to contact their landlord if:

- ventilation is inadequate
- repairs are needed to prevent water from entering the home
- improvements are needed to heating or insulation to prevent condensation

Advise tenants to contact their local authority if no action is taken to improve ventilation or carry out repairs.

Advice on reducing damp and condensation

- Use background ventilation (trickle vents or whole-house mechanical ventilation)
- Use extractor fans and open windows (if possible and safe)
- Avoid moisture-producing activities (such as air-drying clothes) or, if unavoidable, improve ventilation
- Repair sources of water damage and remove residual moisture

Advice on increasing ventilation

- Use extractor fans in bathrooms and kitchens, or open windows (if possible and safe) when:
- using cookers, especially gas cookers
 - using open solid-fuel fires or free-standing gas heaters
 - using candles
 - using cleaning products, household sprays or aerosols and paints
 - having a bath or shower
 - air-drying clothes

Other advice

- Do not use unflued paraffin heaters
- Follow product instructions if using, for example, paint, glue and solvents
- Choose low-emission materials if replacing furniture or flooring
- Ensure adequate ventilation when installing a new cooker, especially for gas cookers
- Do not use gas cookers to heat a room
- Avoid smoking in the home

Actions for healthcare professionals

Advice for people with breathing or heart problems

- Explain that indoor air pollutants can trigger or exacerbate asthma, other respiratory conditions and cardiovascular conditions

Advice for people allergic to house dust mites

- Advise on how to reduce exposure to house dust mites, including:
- avoiding second-hand mattresses if possible

Advice for pregnant women and babies under 12 months

- Advise on the increased risks from poor indoor air quality
- Explain the risks of tobacco smoke
- Ask about housing conditions and

Actions for architects, designers, builders and developers

These recommendations apply both to building new homes and renovating or refurbishing existing homes.

Building materials and products

- Architects and designers should consider specifying materials and products that emit low levels of formaldehyde and volatile organic compounds (VOCs)
- Builders and developers should use materials as specified or substitute with products of the same or lower emission levels
- Builders and developers should ensure materials and products comply with building regulations, design specifications and the manufacturer's guidance

Designing heating and ventilation systems

- Adopt a whole-building approach to heating and ventilation, balancing indoor air quality with standards for energy use
- Use heating systems that minimise exposure to particulate matter
- Ensure there is permanent, effective ventilation
- Include provision for removing indoor air pollutants in designs, for example, windows that open and extractor fans that extract to outside
- Design ventilation to reduce exposure to outdoor air pollution, for example, with windows that face away from busy roads

Installing heating and ventilation systems

- Ensure heating and ventilation is installed and commissioned in accordance with the manufacturer's instructions and meets building regulation requirements
- When installing heating and ventilation systems, ensure they are easily accessible for regular maintenance
- Ensure any variations to the heating and ventilation specification comply with design specifications and building regulations

WHO

- Around 2.4 billion people cook and heat their homes with polluting fuels and every year 3.2 million people die prematurely from household air pollution.
- More than 99% of the population live in areas where the air pollution is above WHO air quality guidelines and 4.2 million deaths are attributed to ambient air pollution each year.

Pollutant	Averaging time	Interim target				AQG level
		1	2	3	4	
PM_{2.5}, µg/m³	Annual	35	25	15	10	5
	24-hour ^a	75	50	37.5	25	15
PM₁₀, µg/m³	Annual	70	50	30	20	15
	24-hour ^a	150	100	75	50	45
O₃, µg/m³	Peak season ^b	100	70	–	–	60
	8-hour ^a	160	120	–	–	100
NO₂, µg/m³	Annual	40	30	20	–	10
	24-hour ^a	120	50	–	–	25
SO₂, µg/m³	24-hour ^a	125	50	–	–	40
CO, mg/m³	24-hour ^a	7	–	–	–	4

^a 99th percentile (i.e. 3–4 exceedance days per year).

^b Average of daily maximum 8-hour mean O₃ concentration in the six consecutive months with the highest six-month running-average O₃ concentration.

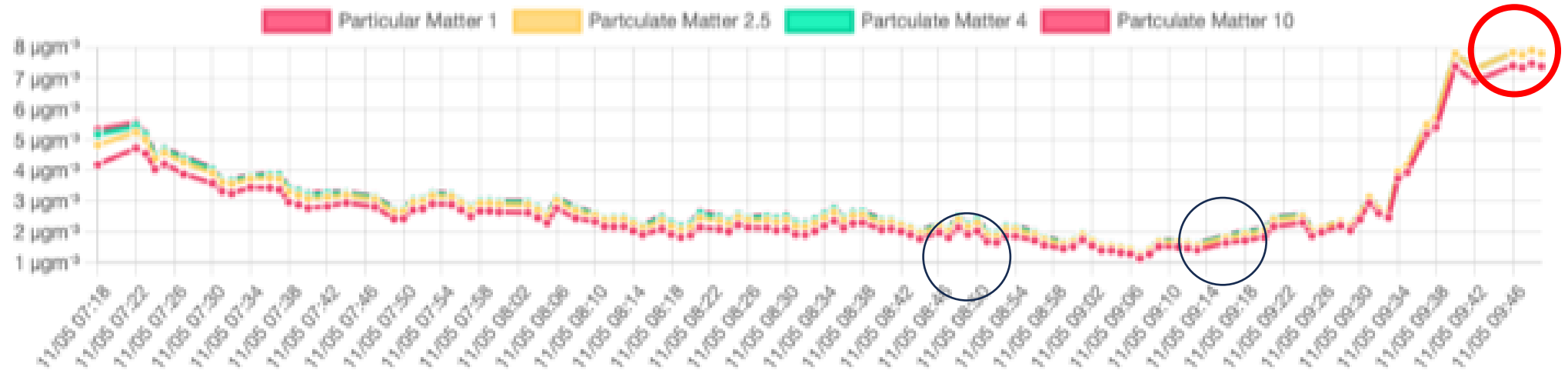
Case study 1: University Building with nearby Railway Line

Pollutants

Select a Parameter to view in more detail

All PM Options

Today Yesterday Week Advanced Search



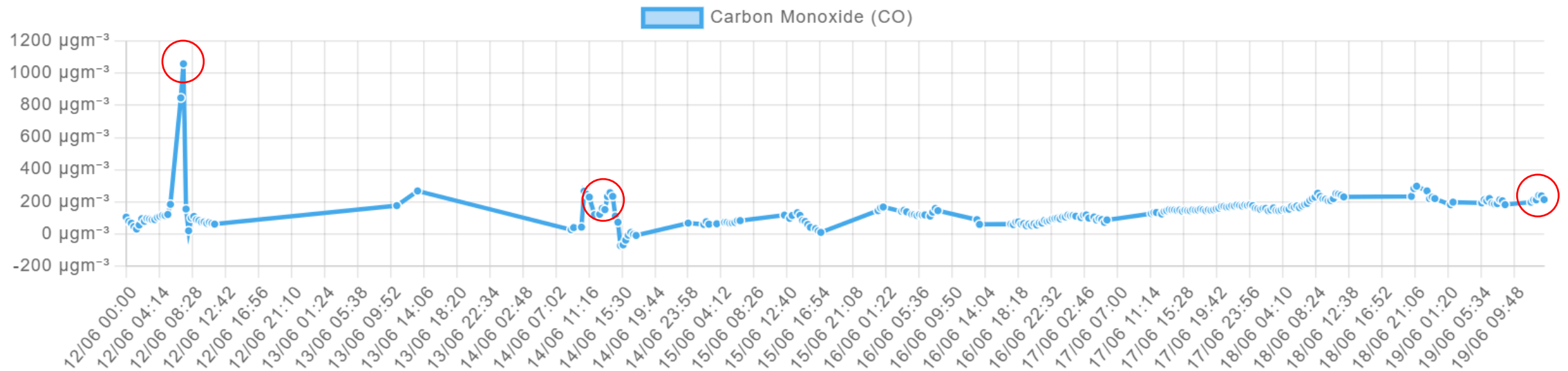
Case Study 2: Pharmacy Department (busy teaching hospital)

Pollutants

Select a Parameter to view in more detail

Carbon Monoxide (CO)

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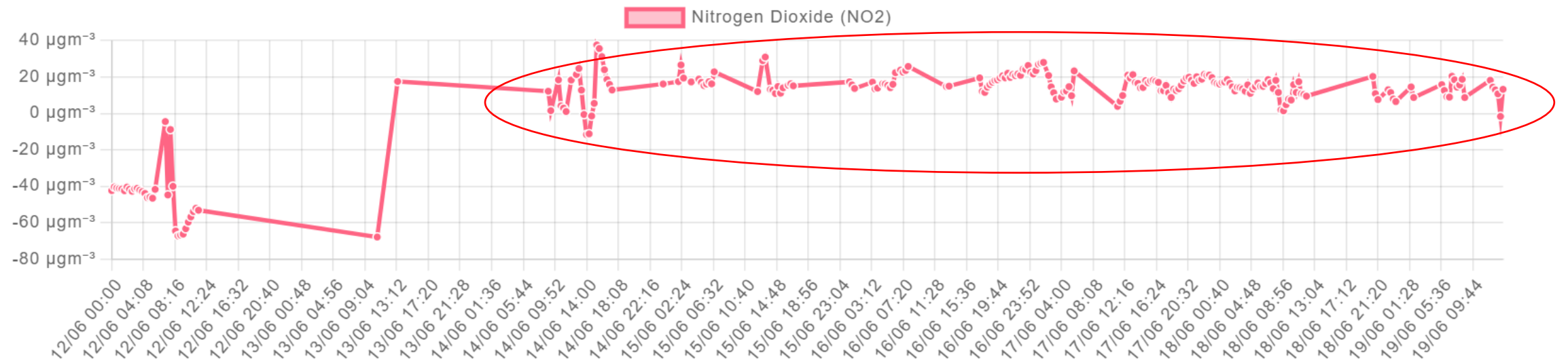


Pollutants

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Nitrogen Dioxide (NO2)

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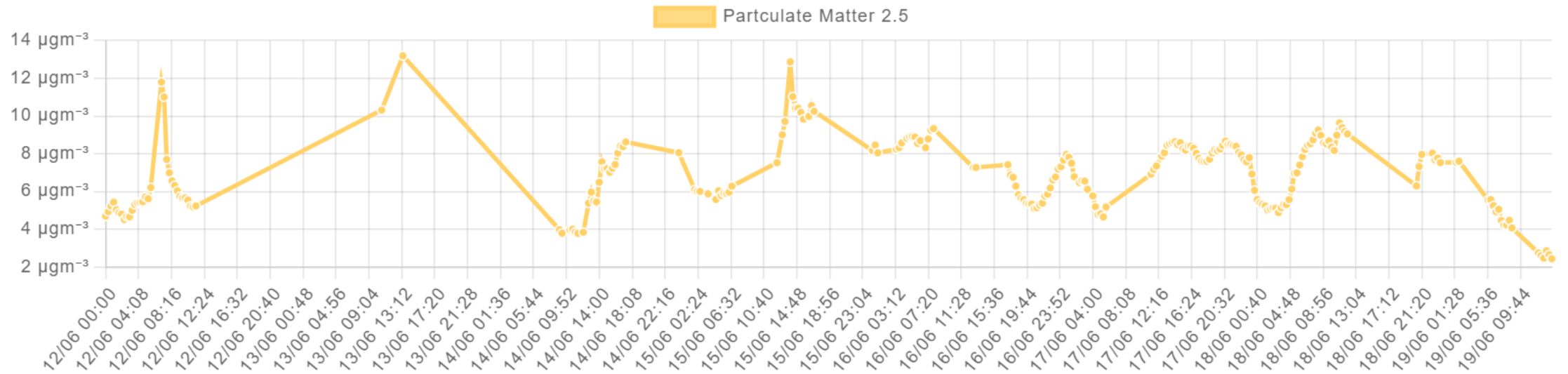


Pollutants

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Particulate Matter 2.5

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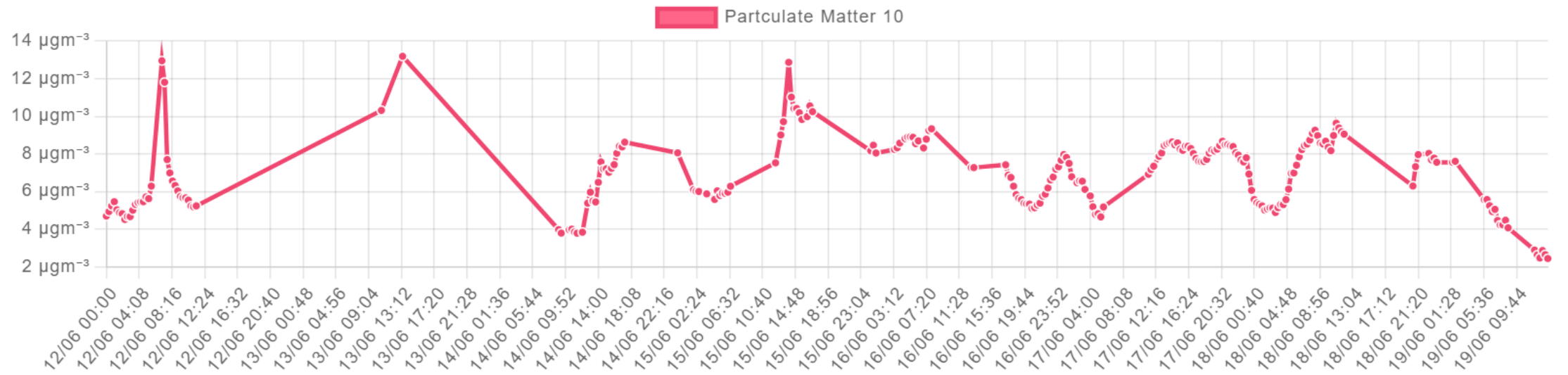


Pollutants

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Particulate Matter 10

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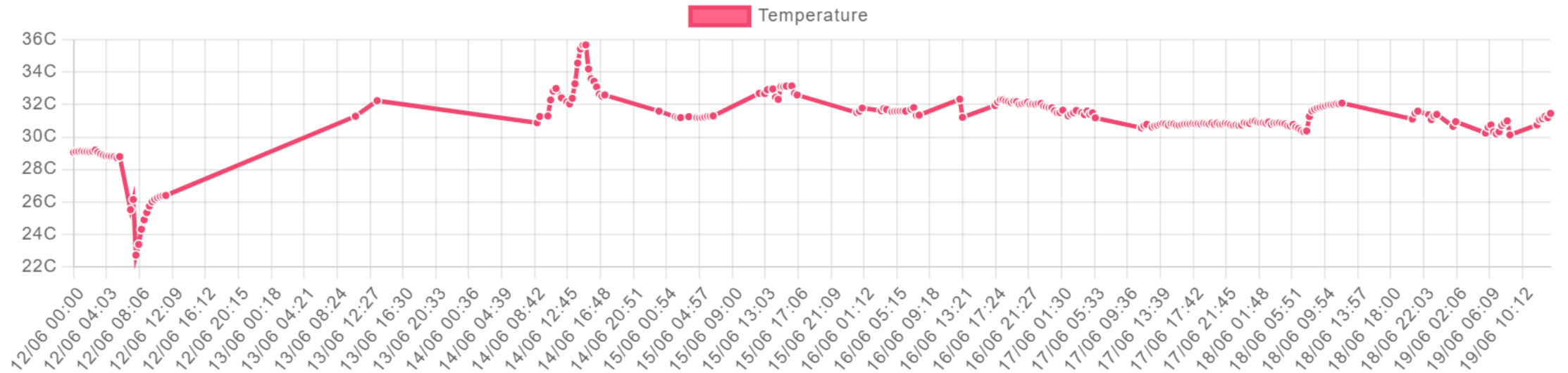


Pollutants

Select a Parameter to view in more detail

Temperature

Today Yesterday Week Advanced Search



Issues

- AQI based on single variant analysis NOT combined variables!
- What do we actually know about cumulative risk and are the models accurate?
- Can you extrapolate outdoor AQ and indoor AQ?

DO SOMETHING

Contact Rob Mills

