



Committee Name: Scrutiny

Committee Date: 15/07/2021

Report Title: Air pollution from woodburning

Portfolio:	Sustainable city environment portfolio
Report from:	Executive director of development and city services
Wards:	All Wards
OPEN PUBLIC ITEM	

Purpose

To review wood/coal burning, principally from domestic fires, and its contribution to pollution from particulates. To review current pollution levels in Norwich, regulatory requirements, health implications and public awareness.

Recommendation:

For scrutiny committee to discuss the issues raised in this report and make recommendations for cabinet to consider.

Policy Framework

The Council has three corporate priorities, which are:

- People living well
- Great neighbourhoods, housing and environment
- Inclusive economy

This report meets all the corporate priorities.

Report Details

1. There are well documented health implications concerning particulate matter but notably small particulates of size 2.5 microns or less – known as PM_{2.5}. These very small particles can lodge deep in the lungs and can pass through the membranes into the blood stream, unlike larger particles. Hence

PM_{2.5} is not visible to the human eye and can only be seen under a microscope.

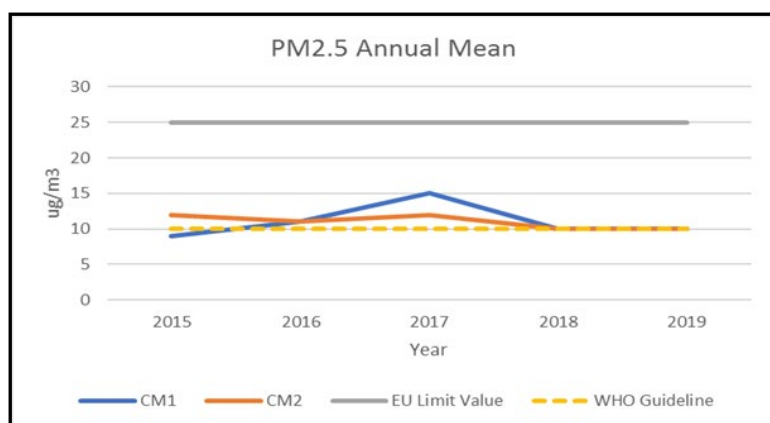
- No regulatory value exists for PM_{2.5} but local authorities are recommended to move towards the annual average EU limit value of 25µg/m³, as stated in the Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe¹.

There has been an overall steady reduction in the annual average level of PM_{2.5} at Lakenfields since 2010, which is in line with EU target value of 15% reduction at background urban locations between 2010 and 2020.

The World Health Organisation document “WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulphur dioxide”, recommends an annual mean guideline value for PM_{2.5} of 10µ/m³.

Norwich City Council’s Annual Status Reports (ASR) show that, in 2018 and 2019, the stringent WHO guideline level for PM_{2.5} was met, as shown in the figure below. (CM1 = Castle Meadow air quality station. CM2= Lakenfields air quality station).

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2019 (%) ⁽²⁾	PM _{2.5} Annual Mean Concentration (µg/m ³) ⁽³⁾				
						2015	2016	2017	2018	2019
CM1	623202	308615	Kerbside	91	91	9	11	15	10	10
CM2	623637	306940	Urban Background	97	97	12	11	12	10	10

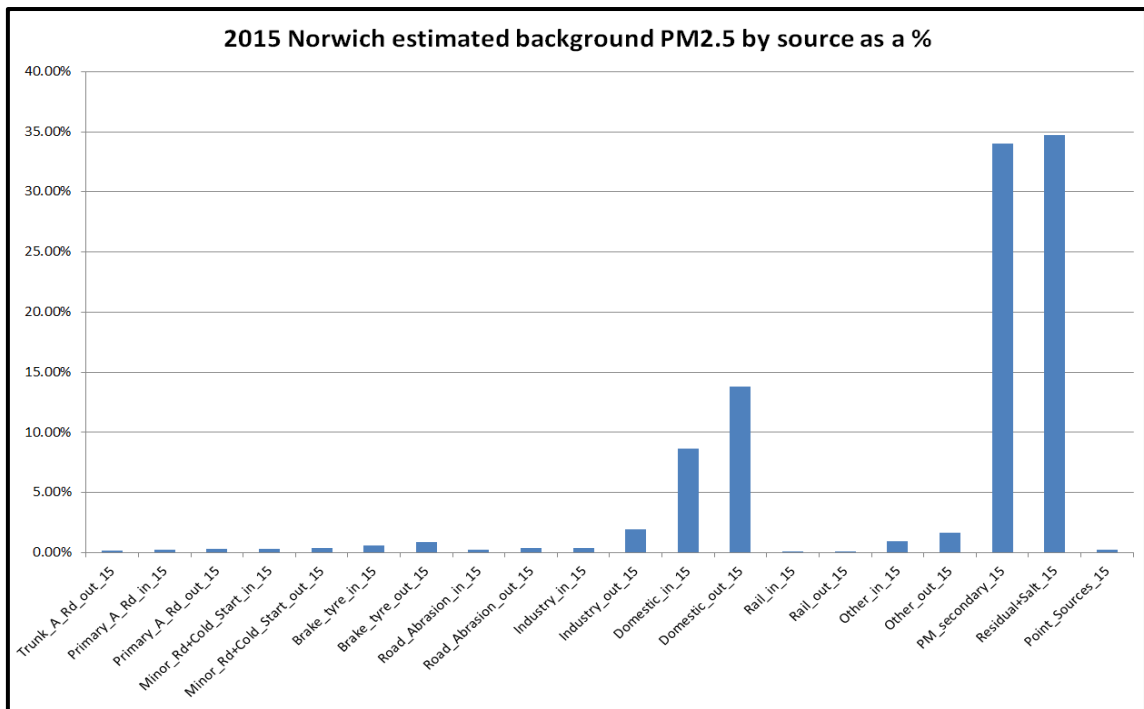


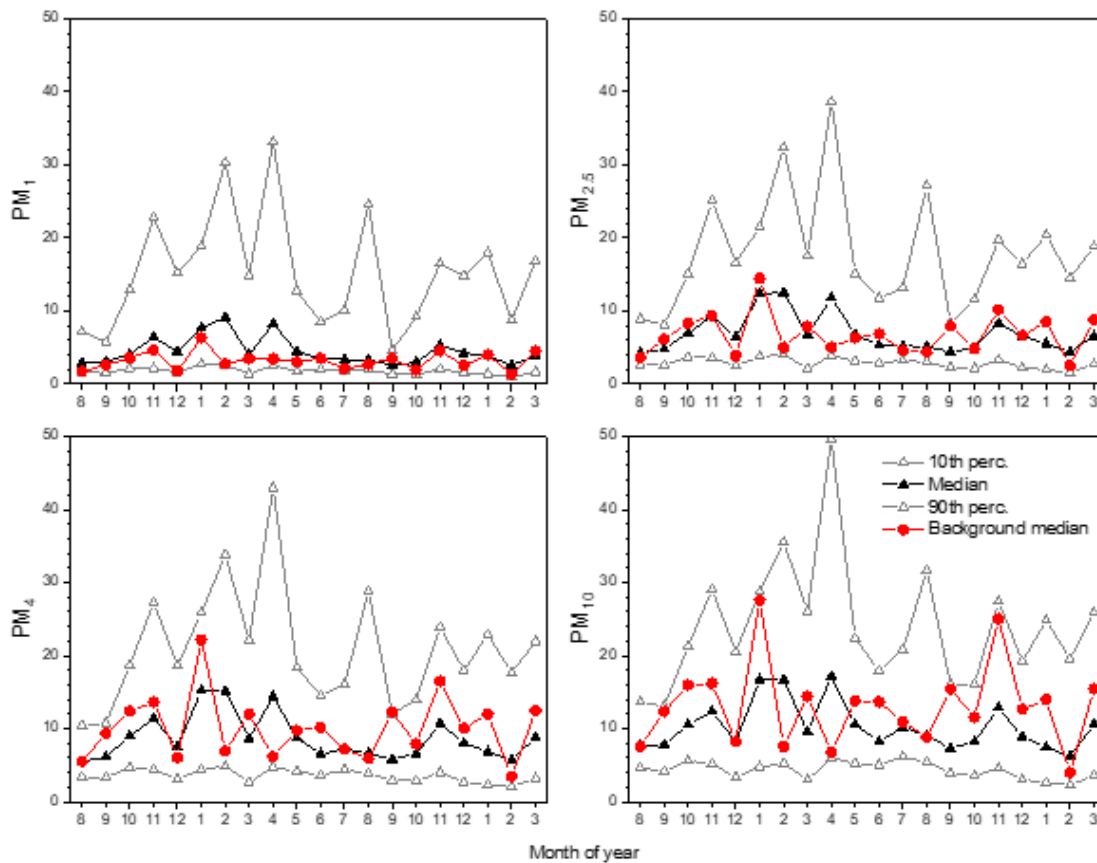
¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0050>

3. In 2015, a source apportionment study was undertaken which showed the main source of the Norwich PM_{2.5} pollution is transboundary, originating mostly from marine salt spray off the North Sea, and from secondary particulate generation. See plot below. Typical examples of the latter include chemical reactions with ammonia, such as from agricultural sources, to give ammonium nitrates and sulphates. These 2 sources of PM_{2.5}, for the most part, form a background PM_{2.5} level.

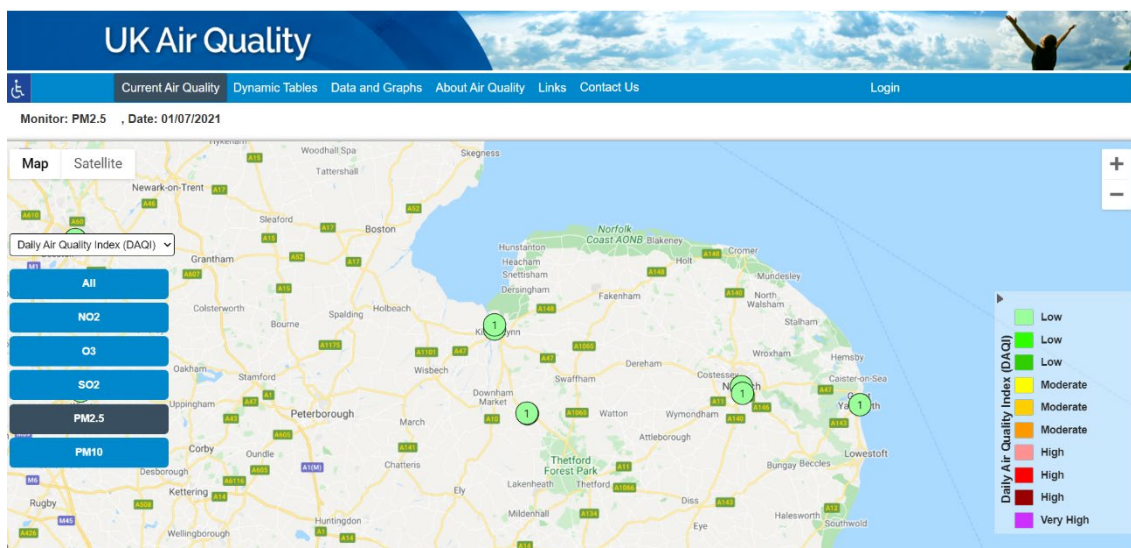
Superimposed on top of this general background level are domestic sources which can account for approximately 22% of PM_{2.5} pollution.

Pollution episodes in the East of England are largely attributable to wind-blown continental pollution.





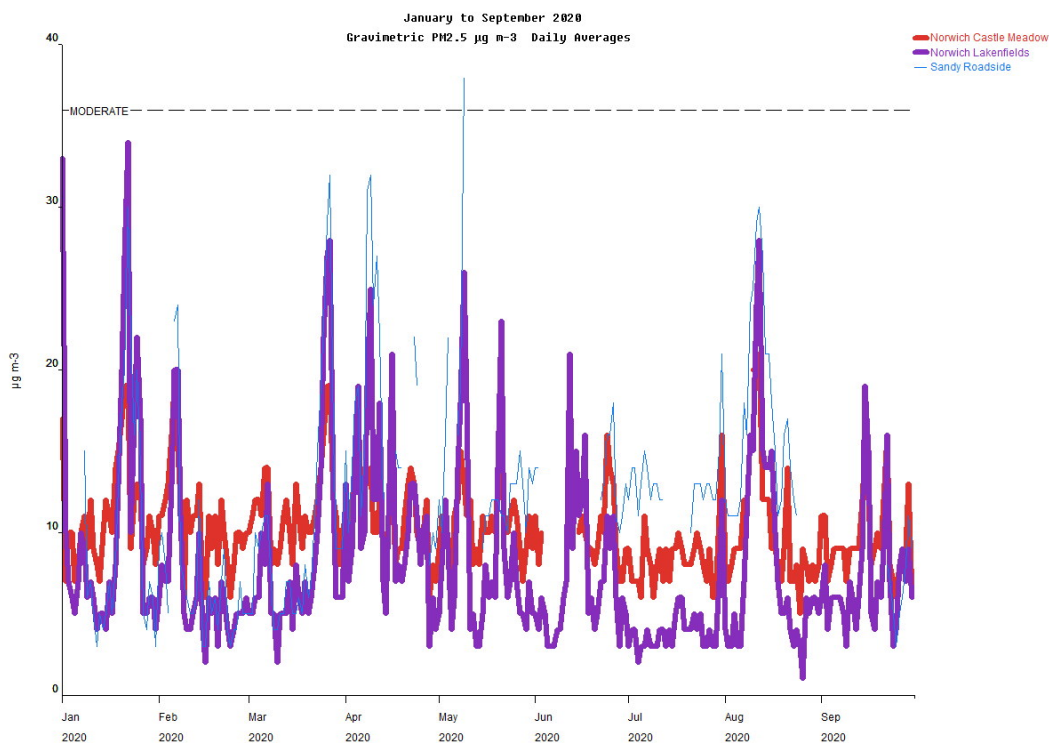
4. The above graphs show “clean air” from the Weybourne observatory in North Norfolk. The PM_{2.5} plot shows that even background “clean air” PM_{2.5} levels (ie broadly representing non anthropogenic sources of PM and hence essentially believed to be sea salt spray) are not far below the WHO guideline value and sometimes exceed it. The x axis commences August 2018.
5. As PM_{2.5} is mostly transboundary and hence generally affects the whole of Norwich, the reporting of particulate pollution levels on the Norwich council website may be very useful.



AQDM undertake NCC data ratification and processing for the Castle Meadow air quality station and they have a link to the UK Air website which

shows real time pollution data. NCC could have a link to this site thus showing live pollution data taken from the Castle Meadow and Lakenfields air quality stations. This could be useful and especially for anyone susceptible to air pollution, such as asthmatics.

6. During lockdown air quality monitoring in Norwich showed NO₂ levels dropped by over 30%. Neither PM₁₀ nor PM_{2.5} showed a reduction. In fact in April 2020 there was an elevation in PM_{2.5} & PM₁₀ across the whole region due to a pollution episode from continental Europe.
7. The graph below shows PM_{2.5} for January to September last year. No variations attributable to lockdown can be discerned. It can however be seen that pollution spikes evident at Castle Meadow, Lakenfields and Sandy roadside in Cambridgeshire all co-incide thus showing PM_{2.5} is predominantly a transboundary pollutant. Neither during the pollution episode in April, nor at any time, did the pollution levels reach a “moderate” level of the Defra defined Daily Air Quality Index in Norwich. http://uk-air.defra.gov.uk/documents/Notification_of_changes_to_the_air_quality_index.pdf



8. For point source PM_{2.5} pollution, such as from woodburners/open fires, the government have brought in new legislation - Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020. Essentially this means that all new wood/coal burning appliances have to meet certain criteria aimed at more efficient burning and hence fewer emissions. From May 2021, all wood sold must contain <20% water and have a Ready to Burn logo. All coal must have <2% sulphur content and emit <5g/hr of smoke. Trading Standards are the enforcing authority as it is retailer based enforcement not consumer. The

Local Authority can however investigate complaints of smoke/odour from a domestic chimney.

9. The NCC website under the banner Air Pollution and Air Quality gives a link to the Defra information flyer on Open fires. It also gives access to all the air quality reports submitted to Defra.
10. It is agreed that more could be done to make the general public aware of the potential issues and health implications of using an open fire and how to use it responsibly.
11. Open fires in pubs and the potential harmful effects on staff would be a matter for the Health & Safety Executive but, provided the premises in question had installed a certified appliance, and all new woodburners have to comply with this, and the user is burning certified fuel, then there is no law against this, even in a Smoke Control Area. Norwich has 3 SCA's and expanding these would effectively make no difference with regards to any new woodburners being installed or the fuel being burnt for the reasons given above.
12. NCC can work with Trading Standards to ensure the new legislation is being implemented and upheld.
13. One of the best ways forward is probably to make people aware of the potential health effects when using an open fire, especially for the most vulnerable, and give people the knowledge so they can act responsibly. This may be most effective when executed through media campaigns.

Consultation

14. Ward councillors, portfolio holders, the public or other stakeholders have not been consulted on this paper. However, in the light of the new regulations it is intended to work with NCC trading standards to produce an article for a future issues of citizen magazine, which can also be used on the website and social media to outline the health issues associated with woodburning, the new legislation on wood and coal burning and how the general public can protect themselves and others.

Implications

Financial and Resources

Any decision to reduce or increase resources or alternatively increase income must be made within the context of the council's stated priorities, as set out in its Corporate Plan 2019-22 and Budget.

15. There are no proposals in this report that would reduce or increase resources.

Legal

16. There are no legal implications at this stage.

Statutory Considerations

Consideration:	Details of any implications and proposed measures to address:
Equality and Diversity	n/a
Health, Social and Economic Impact	n/a
Crime and Disorder	n/a
Children and Adults Safeguarding	n/a
Environmental Impact	To record and advise of any beneficial or detrimental impacts on the use of resources and potential sources of pollution. Activities which contribute/mitigate against climate change.

Risk Management

Risk	Consequence	Controls Required
Include operational, financial, compliance, security, legal, political or reputational risks to the council		

Other Options Considered

17. No alternatives options have been considered.

Reasons for the decision/recommendation

18. Recommendations from this meeting of scrutiny will be presented to cabinet at the earliest opportunity.

Tracking Information

Governance Check	Name	Date Considered
Relevant Executive Director	Graham Nelson	6.7.21
Legal opinion	Kat Hulatt	7.7.21
Relevant finance officer	Hannah Simpson	7.7.21
Chief Finance Officer (or Deputy)	Hannah Simpson	7.7.21
Monitoring Officer (or Deputy)		

Background papers: none.

Appendices: none.

Contact Officer:

Name: Lesley Oldfield, public protection officer

Telephone number: 01603 989508 mob: 07769 163352

Email address: lesleyoldfield@norwich.gov.uk