



Subject:	Update on Local Air Quality Management Matters.
Date:	8 th September 2020.
Reporting Officer:	Siobhan Toland, Director of City Services
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Restricted Reports	
Is this report restricted?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If Yes, when will the report become unrestricted?	
After Committee Decision	<input type="checkbox"/>
After Council Decision	<input type="checkbox"/>
Sometime in the future	<input type="checkbox"/>
Never	<input type="checkbox"/>

Call-in	
Is the decision eligible for Call-in?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

1.0	Purpose of Report or Summary of main Issues
1.1	Members will recall that at the People and Communities Committee meeting of 3 rd March 2020, a paper was presented that provided an overview of preparations and progress at that time towards development of a new Air Quality Action Plan for the city, along with technical and other information relating to a proposed detailed assessment to be undertaken for the city for fine particulate matter (PM _{2.5}) and nitrogen dioxide (NO ₂).
1.2	This report serves to provide an update to the Committee on progress with both of these projects over the intervening time (within the Covid Pandemic) and to provide an overview of the outcome of the Belfast City Council Air Quality Progress Report 2020.
2.0	Recommendations
2.1	The Committee is asked to:

	<ul style="list-style-type: none"> • note contents of this update report.
3.0	Main report
	<u>Key Issues</u>
3.1.1	<p>Air Quality Action Plan.</p> <p>Members will be aware that the Council’s current Belfast City Air Quality Action Plan is scheduled to conclude at the end of 2020. With this in mind, officers have commenced engagement with a range of government Departments, the Public Health Agency, local public transport providers, the Port of Belfast and sustainable environment and transport organisations in order to begin development of a new Air Quality Action Plan for implementation from April 2020. The focus of the new Air Quality Action Plan will be to address the few remaining nitrogen dioxide (NO₂) hotspots across the city, associated principally with road transport emissions and to improve ambient air quality generally for the city.</p>
3.1.2	<p>To assist in development of the new Air Quality Action Plan, an Air Quality Steering Group has been convened and ‘Terms of Reference’ have been established for both the Group and for development of the new Plan. The Terms of Reference have been designed to ensure that the new Air Quality Action Plan contributes appropriately to the various ambient air quality outcomes detailed within the ‘<i>Belfast Agenda – Your Future City</i>’ community plan, as well as linking to the Programme for Government ‘<i>Indicator 37: Improve air quality</i>’, where the lead measure is ‘concentration of nitrogen dioxide (NO₂)’. In addition, the Terms of Reference highlight that the Council’s Living Here Board oversees delivery of the ‘<i>Living Here</i>’ component of the Belfast Agenda community plan and that the ‘<i>Living Here</i>’ work stream to ‘<i>Maximise the benefit of our natural and built environment</i>’ includes a commitment to delivery of the city’s Air Quality Action Plan(s).</p>
3.1.3	<p>As a consequence of the Covid-19 pandemic, Steering Group meetings to date have been delivered online. The next meeting of the Steering Group is scheduled for 7th September 2020, where Steering Group members have been invited to bring forward mitigation measures on behalf of their organisations for inclusion in the new Action Plan to address the remaining nitrogen dioxide ‘<i>hot spot</i>’ areas across the city and to improve general ambient air quality.</p>

3.1.4	<p>Members are advised that the new Air Quality Action Plan will have to be developed with regard to the various requirements of the DAERA Local Air Quality Management Policy Guidance – LAQM.PGNI(09). Accordingly, the Air Quality Action Plan is required to include the following components:</p> <ul style="list-style-type: none"> • Quantification of the source contributions to the predicted exceedences of the relevant objectives, thereby enabling the Action Plan measures to be effectively targeted; • Evidence that all available options have been considered; • How the district council will use its powers and work in conjunction with other organisations and relevant authorities in pursuit of the air quality objectives; • Clear timescales in which the district council and relevant authorities propose to implement the measures within the plan; • Quantification of the expected impacts of the proposed measures and an indication as to whether the measures will be sufficient to meet the air quality objectives and; • How the district council intends to monitor and evaluate the effectiveness of the plan. <p>Moreover, the new Air Quality Action Plan will have to be independently appraised by the</p>
3.1.5	<p>Department for Environment, Food and Rural Affairs (Defra) technical assessors in order to ensure that the Plan is acceptable in terms of its proposed actions, adequacy and appropriateness, planned implementation, consultation and consistency with statutory guidance. Once the Air Quality Action Plan has been accepted by the assessors, it can then be implemented. Our original intention was that the new Air Quality Action Plan would have been ready for implementation by December 2020 but with the Covid 19 pandemic and allowing for any necessary consultation on the new Action Plan, the anticipated completion date is now April 2021. We have communicated this revision to the action planning timetable to DAERA.</p>
3.2	<p>Detailed Assessment for Fine Particulate Matter (PM_{2.5}) and Nitrogen Dioxide (NO₂).</p>
3.2.1	<p>Members are advised that officers have now completed development of a detailed technical specification for the appointment of a suitably qualified and experienced environmental consultancy to deliver the detailed assessment for fine particulate matter (PM_{2.5}) and nitrogen dioxide (NO₂) for the city. The specification will be issued as local and European tenders in coming weeks.</p>
3.2.2	<p>It is proposed that the detailed assessment for PM_{2.5} and NO₂ will involve three specific project components; (i) development of a detailed emissions inventory for the city to include road, rail, shipping, aircraft domestic, industrial and commercial emissions, etc.</p>

within the city boundary; (ii) additional ambient monitoring across the city for fine particulate matter (PM_{2.5}) and nitrogen dioxide (NO₂) in order to fill any gaps in existing monitoring data and; (iii) detailed atmospheric dispersion modelling for the city in order to identify geographic areas where exceedances of NO₂ or PM_{2.5} objectives, limit values or WHO guideline values are predicted or known to occur.

3.2.3 The environmental consultancy appointed will also be expected to provide prioritised recommendations for achieving the air quality objectives, limit values or WHO guideline values for PM_{2.5} and NO₂ within any areas of exceedance, as well as for the city as a whole. It is anticipated that the duration of the detailed assessment project will be in the order of 2 years, but the project may in exceptional circumstances have to be extended or curtailed as a consequence of any new local or national Covid-19 pandemic restrictions.

3.3 Installation of an Ion Chromatogram type analyser at the Belfast Centre Lombard Street monitoring site.

3.3.1 As an addition to the detailed assessment for fine particulate matter (PM_{2.5}), Council officers are currently liaising with their DAERA counterparts and the UK Centre for Ecology and Hydrology regarding development of a project to identify and quantify the water-soluble gases and aerosols in air containing different sizes of particulate matter to aid in the better understanding of some of the chemical mechanisms involved in the formation of particulate matter in Belfast and across Northern Ireland. This project was initially proposed by DAERA however the analytical data generated will also help to inform the Council's detailed assessment for fine particulate matter (PM_{2.5}) for the city.

3.3.2 Accordingly, it is proposed that a **Monitor for AeRosols and Gases (MARGA)** ion chromatogram type ambient air quality analyser be installed at the DAERA managed Belfast Centre site, initially for a period of around 4 months, commencing from early 2021. The MARGA instrument will be able to measure ambient gases including hydrochloric acid, nitric acid, nitrous acid, sulphur dioxide and ammonia. In addition, it will be capable of measuring aerosol ions including chloride, nitrate, sulphate, ammonium, potassium, calcium and magnesium. As advised previously, this project is to be delivered in partnership with DAERA and the UK Centre for Ecology and Hydrology. DAERA have however sought support from the Council in the installation and operation of the chromatographic equipment. Further updates will be provided to Committee as necessary as the project is further developed

3.4	<p>Belfast City Council Air Quality Progress Report 2020.</p> <p>In accordance with the timetable detailed within the government’s local air quality management technical guidance document LAQM.TG(16), Belfast City Council provided its 2020 Air Quality Progress Report to the Defra technical assessors on 30th June 2020.</p>
3.4.1	<p>Air Quality Progress Reports are required to include the following types of air quality information:</p> <ul style="list-style-type: none"> • An overview of air quality actions being taken in the local authority area; • A brief discussion of the LAQM regime; • Actions to improve air quality: <ul style="list-style-type: none"> • A description of currently declared AQMAs • A section discussing the progress, and impact of Action Plan measures. • A summary of air quality monitoring data collated over the past 5 years, and a comparison of the latest available results against the Air Quality Strategy objectives and; • Additional supporting information including screening assessments for new developments within the local authority area or changes in existing sources of pollution over the past year, or detailed dispersion modelling of emissions to support the declaration / amendment or revocation of AQMAs.
3.4.2	<p>Although the Progress Report is dated June 2020, Members are advised that the monitoring data included within the report relates to the 2019 calendar monitoring year. Accordingly, during 2019, the Council continued to operate its automatic monitoring sites for nitrogen dioxide (NO₂) and particulate matter (PM₁₀) at Stockmans Lane and its automatic monitoring sites for nitrogen dioxide (NO₂) at the A12 Westlink, Ormeau Road and Upper Newtownards Road. Annual mean nitrogen dioxide concentrations recorded during 2019 at the A12 Westlink, Ormeau Road and Upper Newtownards Road sites were all less than the 40 µgm⁻³ objective, but the annual mean nitrogen dioxide concentration recorded at the Stockmans Lane site was 45 µgm⁻³, although this was a 4 µgm⁻³ reduction on the 2018 annual mean concentration of 49 µgm⁻³. There were no recorded exceedances of the nitrogen dioxide 200 µgm⁻³ 1-hour mean objective during 2019.</p>
3.4.3	<p>The Council also continued to operate passive nitrogen dioxide diffusion tubes at 55 monitoring locations across the city during 2019. Exceedances of the nitrogen dioxide 40 µgm⁻³ annual mean objective were recorded at Stockmans Lane (45 µgm⁻³ in 2019 and 48 µgm⁻³ in 2018); Blacks Road (42 µgm⁻³ in 2019 and 36 µgm⁻³ in 2018); Great George’s</p>

	Street ($45 \mu\text{gm}^{-3}$ in 2019 and $44 \mu\text{gm}^{-3}$ in 2018); $45 \mu\text{gm}^{-3}$ at a new 2019 monitoring location at the entrance to the RVH at Mulhouse Road on the A12 Westlink and; $53 \mu\text{gm}^{-3}$ at a new 2019 monitoring location at Henry Place adjacent to the A12 Westlink.
3.4.4	Monitoring sites at, or close to the nitrogen dioxide annual mean objective during 2019 included Short Strand $40 \mu\text{gm}^{-3}$; Albert Clock $40 \mu\text{gm}^{-3}$; Chichester Street $40 \mu\text{gm}^{-3}$; Peter's Hill $40 \mu\text{gm}^{-3}$; Balmoral Avenue $39 \mu\text{gm}^{-3}$ and; Glenmachan Street $38 \mu\text{gm}^{-3}$.
3.4.5	This 2019 nitrogen dioxide monitoring data has already been communicated to the Air Quality Action Plan Steering Group in order to help inform the development of targeted mitigation measures for the new Action Plan.
3.4.6	Annual mean particulate matter (PM_{10}) concentrations at the Belfast Centre, Lombard Street and Stockmans Lane monitoring sites were 15 and $18 \mu\text{gm}^{-3}$ respectively during 2019; significantly below the $40 \mu\text{gm}^{-3}$ annual mean objective. No exceedences of the 24 hour mean PM_{10} objective were recorded at either monitoring site during 2019.
3.4.7	The annual mean $\text{PM}_{2.5}$ concentration recorded at the Belfast Centre, Lombard Street site in 2019 was $11 \mu\text{gm}^{-3}$. This concentration is similar to that recorded in 2018 - $10 \mu\text{gm}^{-3}$, 2017 – $9.0 \mu\text{gm}^{-3}$ and 2016 - $10 \mu\text{gm}^{-3}$; and significantly below the $25 \mu\text{gm}^{-3}$ annual mean target value to be achieved by 2020.
3.4.8	There were no exceedences of any objective for sulphur dioxide (SO_2) recorded at the Belfast Centre, Lombard Street site during 2019.
3.4.9	The Council has not yet received a response concerning the appraisal of its 2020 Belfast City Council Air Quality Progress Report. However, once the Report has been formally accepted, an electronic copy of the report will be provided for the Members' Library.
3.4.10	As an addendum, Members are advised that the various travel and other movement restrictions associated with the Covid-19 pandemic have resulted in reduced roadside nitrogen dioxide concentrations during 2020. For example, the nitrogen dioxide mean value at the Stockmans Lane site during January – August 2019 was $44.8 \mu\text{gm}^{-3}$, whereas for the same period in 2020, the mean nitrogen dioxide concentration is $30.8 \mu\text{gm}^{-3}$. Similar reductions have been observed at other nitrogen dioxide roadside monitoring sites across

<p>3.5</p>	<p>the city. It is presently unclear whether nitrogen dioxide and other ambient pollutant concentrations will recover to their pre Covid-19 levels as Belfast and Northern Ireland continue to emerge from the pandemic.</p> <p><u>Financial & Resource Implications</u></p> <p>Permission for the public advertisement of Tender T2044 for ambient air quality assessment within the Council boundary for PM_{2.5} and NO₂ ambient pollutants was obtained at the Strategic Policy and Resources Committee meeting of Friday 24th January 2020. Funding of up to £125,000 to support delivery of the detailed assessment project has been secured from the DAERA Local Air Quality Management grant scheme for 2020-2021. It is proposed that the tender documentation will be issued during the week commencing 7th September 2020 and that the tender will remain open for a period of 30 days. The various submissions will be assessed thereafter, and the tender is likely to be awarded towards the end of October 2020.</p>
<p>3.6</p>	<p><u>Equality or Good Relations Implications /Rural Needs Assessments</u></p> <p>None</p>
<p>4.0</p>	<p>Appendices – Documents Attached</p> <p>None</p>