London Borough of Barking and Dagenham Air Quality Annual Status Report for 2019
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This report provides a detailed overview of air quality in Barking and Dagenham during 2019. It has been produced to meet the requirements of the London Local Air Quality Management statutory process[1].

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[1] LLAQM Policy and Technical Guidance 2016 (LLAQM.TG(16)). https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-boroughs

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Abbreviations

AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
CAZ	Central Activity Zone
EV	Electric Vehicle
GLA	Greater London Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LLAQM	London Local Air Quality Management
NRMM	Non-Road Mobile Machinery
PM_{10}	Particulate matter less than 10 micron in diameter
$PM_{2.5}$	Particulate matter less than 2.5 micron in diameter
TEB	Transport Emissions Benchmark
TfL	Transport for London

Table A. Summary of National Air Quality Standards and Objectives

Pollutant	**Objective (UK)**	**Averaging Period**	**Date[1]**
Nitrogen dioxide - NO_2	200 μg m^{-3} not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
	40 μg m^{-3}	Annual mean	31 Dec 2005
Particles - PM_{10}	50 μg m^{-3} not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
	40 μg m^{-3}	Annual mean	31 Dec 2004
Particles - $PM_{2.5}$	25 μg m^{-3}	Annual mean	2020
	Target of 15% reduction in concentration at urban background locations	3 year mean	Between 2010 and 2020
Sulphur Dioxide (SO_2)	266 μg m^{-3} not to be exceeded more than 35 times a year	15 minute mean	31 Dec 2005
	350 μg m^{-3} not to be exceeded more than 24 times a year	1 hour mean	31 Dec 2004
	125 μg m^{-3} mot to be exceeded more than 3 times a year	24 hour mean	31 Dec 2004

Note: [1] by which to be achieved by and maintained thereafter

1. Air Quality Monitoring

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2019

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA?	Distance from monitoring site to relevant exposure (m)	Distance to kerb of nearest road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
(BG1)	Rush Green	551053	187233	Suburban	Y	28	50	4	NO2 SO2	Chemiluminescent UV Florescence
(BG2)	Scrattons Farm	548043	183320	Suburban	Y	24	24	3.5	NO2 PM10	Chemiluminescent Teom

1.2 Comparison of Monitoring Results with AQOs

The results presented are after adjustments for “annualisation” and for distance to a location of relevant public exposure, the details of which are described in Appendix A.

Table D. Annual Mean NO_2 Ratified and Bias-adjusted Monitoring Results (μg m^{-3})

Site ID	Site type	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Annual Mean Concentration (μg m^{-3})							
				2012[c]	2013 [c]	2014[c]	2015 [c]	2016 [c]	2017 [c]	2018 [c]	2019 [c]
BG1 Barking and Dagenham-Rush Green	Automatic		39	27 (25)	28	25	20	21	24	24	20
BG2 Barking and Dagenham-Scrattons Farm	Automatic		89	39(34)	33(35)	31	29	32	29	26	24

Notes: Exceedance of the NO_2 annual mean AQO of 40 μg m^{-3} are shown in **bold**.

NO_2 annual means in excess of 60 μg m^{-3}, indicating a potential exceedance of the NO_2 hourly mean AQS objective are shown in bold and underlined.

[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

There has been a general slow and steady decline in Nitrogen Dioxide annual mean concentrations at both automatic monitoring stations with some years' data showing a slight rise and/or plateau contrary to this trend.

Table E. NO_2 Automatic Monitor Results: Comparison with 1-hour Mean Objective

Site ID	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Number of Hourly Means > 200 µg m^{-3}							
			2012[c]	2013 [c]	2014[c]	2015 [c]	2016 [c]	2017 [c]	2018 [c]	2019 [c]
BG1 Barking and Dagenham-Rush Green	*N/A*	39	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
BG2 Barking and Dagenham-Scrattons Farm	*N/A*	89	0	0	0	0	0	0	0	0

Notes: Exceedance of the NO_2 short term AQO of 200 µg m^{-3} over the permitted 18 days per year are shown in **bold**.

[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

The number of hourly mean concentrations over 200 microgrammes per cubic metre is significantly below the objective in 2019 as has been the case for previous years.

Table F. Annual Mean PM_{10} Automatic Monitoring Results (µg m^{-3})

Site ID	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Annual Mean Concentration (µg m^{-3})							
			2012[c]	2013 [c]	2014[c]	2015 [c]	2016 [c]	2017 [c]	2018 [c]	2019 [c]
BG2 Barking and Dagenham-Scrattons Farm	N/A	89	24 (20)	18 (20)	20	21	20	20	19	18

Notes: Exceedance of the PM_{10} annual mean AQO of 40 µg m^{-3} are shown in **bold**.

[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

There has been a general slow and steady decline in Particulate Matter PM10 annual mean concentrations at this monitoring station with some years' data showing a slight plateau contrary to this trend.

Table G. PM_{10} Automatic Monitor Results: Comparison with 24-Hour Mean Objective

Site ID	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Number of Daily Means > 50 µg m^{-3}								
			2012[c]	2013 [c]	2014[c]	2015 [c]	2016 [c]	2017 [c]	2018 [c]	2018 [9]	2019 [9]
BG2 Barking and Dagenham-Scrattons Farm	N/A	89	10 (43)	0 (31)	6	4	4	4	0	6	6

Notes: Exceedance of the PM_{10} short term AQO of 50 µg m^{-3} over the permitted 35 days per year or where the 90.4th percentile exceeds 50 µg m^{-3} are shown in **bold**.
Where the period of valid data is less than 85% of a full year, the 90.4th percentile is shown in brackets after the number of exceedances.
[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

The number of daily mean concentrations over 50 microgrammes per cubic metre is significantly below the objective in 2019 as has been the case for previous years.

~~**Table H. PM2.5 monitored**~~

Table I. SO_2 Automatic Monitor Results: Comparison with Objectives

Site ID	Valid data capture for monitoring period % [a]	Valid data capture 2019 % [b]	Number of : [c]		
			15-minute means > 266 µg m^{-3}	1-hour mean > 350 µg m^{-3}	24-hour mean > 125 µg m^{-3}
BG1 Barking and Dagenham- Rush Green	N/A	97	0	0	0

Exceedances of the SO_2 AQOs are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed / year)

[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

2. Action to Improve Air Quality

2.1 Air Quality Action Plan Progress

Table J provides a brief summary of Barking and Dagenham progress against the Air Quality Action Plan, showing progress made this year. New projects which commenced in 2018 are shown at the bottom of the table.

Table J. Delivery of Air Quality Action Plan Measures

Measure	Action	**Progress** • Emissions/Concentration data • Benefits • Negative impacts / Complaints *Please include emissions data (and other proxy metrics), and progress against targets and KPIs wherever possible.* *Please add extra lines for any new projects or initiatives that have begun since your last AQAP was published.*	**Further information**
4	The Council will continue to lobby Transport for London (TfL) to consider improvements to their road network	Continued support and consultation feedback for TFL's Ultra Low Emission Zone (ULEZ) planned 2021 expansion and changes. LBBD is not within the expanded ULEZ, however, TFL studies have highlighted that periphery boroughs like LBBD with multiple	https://tfl.gov.uk/modes/driving/ultra-low-emission-zone/ulez-where-and-when#on-this-page-5 https://tfl.gov.uk/travel-information/improvements-and-projects/

		main arterial routes connecting central London will benefit greatly. Consultation input provided on the proposed Barking to Barkingside walking and cycling routes. It is part of wider proposals to connect with Ilford Town Centre. Ongoing. Priorities for improvements include the A13 corridor and A13/Renwick Road and A13/Lodge Avenue junctions; the A12 corridor and A12/Whalebone Lane junction. These are the areas which suffer from particular problems of traffic congestion and poor air quality.	https://tfl.gov.uk/info-for/media/press-releases/2019/june/plans-to-make-streets-safer-for-walking-and-cycling-in-barking
9	Continue to work with London Buses, TfL, neighbouring Boroughs and bus operators to improve reliability and efficiency of bus services by attending regular meetings and discussing local problems	Ongoing. Priorities include exploring the potential for new or improved bus services, including new north/south routes between Marks Gate/Chadwell Heath and Barking Town Centre and Dagenham to enhance connectivity and to maximise the economic benefits of Crossrail; additional east-west bus service improvements in the London	The Council is in regular dialogue with TfL and hosts quarterly Public Transport Liaison Group (PTLG) meetings where issues regarding bus services/operations are discussed.

		Riverside area, providing greater connectivity to the Royal Docks and Canary Wharf; providing added capacity on key bus routes serving Barking Town Centre to ease overcrowding; Route 5 services have been extended to Queen's Hospital in Romford, Havering to provide a direct link to a range of health services for people in Barking.	
11	Improve footpaths, signage and directions to encourage people to walk and continue to extend the 'Just Walk' scheme	Walkable London Best Practice Event 2019 was hosted in LBBD in February. 26 boroughs and organisations were represented at the meeting who are working to make London more walkable through the Living Streets programme. The award-winning Streets Apart project, delivered by Living Streets, was extended into Barking & Dagenham in 2019. The project will run over three years and is focused on walking to get active and reduce social isolation in older adults. It involves led walking groups, audits of local streets to discover places for	https://www.livingstreets.org.uk/news-and-blog/blog/walkable-london-best-practice https://www.livingstreets.org.uk/products-and-services/projects/streets-apart-london

		improvement and volunteer training to ensure legacy of the project.	
12	Support the provision of better facilities at bus and rail stations and routes between the two	Barking Station upgrade /improvement proposals put forward. Plans would see a doubling of the size of the station entrances aimed at improving the flow of people into the station and connecting the station more fully with Station Parade. Beam Park Railway Station given approval for development, adding a new train station into LBBD within an area which is due for development. Beam Park station is located on the C2C line and will significantly enhance the area's direct links into Central London where there hasn't been previously. 44% of the development has been allocated for publicly accessible green space.	https://www.barkinganddagenhampost.co.uk/news/barking-station-plans-revealed-1-5910787 https://www.lqgroup.org.uk/about/media-centre/news/details/139
13	Ensure that the need to travel by private car or by lorries other than for essential trips is reduced while accepting the role of the car and the lorry in	Policy development work during 2019 contributed to the formation of the Draft Local Plan. Draft Strategic Policy SP7: 'Planning for Integrated Transport' demonstrates that the Council will ensure the provision of	P.91 https://www.lbbd.gov.uk/sites/default/files/attachments/LBBD-Draft-Local-Plan-Reg-18-Consultation-version_211119.pdf

	helping to meet transport needs	sufficient and suitably-located land for delivering required transport infrastructure. Similarly Draft Policy DM31: 'Making better connected neighbourhoods', Draft Policy DM32: Cycle and car parking.	
14	Support measures to manage travel demand in the Borough and encourage alternative travel modes to the car through traffic management measures. The road network should be managed to give priority to essential road users, environmental improvement, pedestrian safety, and safety of all users	Worked with TFL on the consultation for the 'Proposed improvements between Ilford and Barking Riverside' , the proposals are guided by the Greater London Authority (GLA) Healthy Streets Approach which aims to encourage walking, cycling and use of public transport. Dagenham Heathway Healthy Streets programme. Community Co-Design Consultation undertaken in 2019 to develop designs for an improved Dagenham Heathway. Becontree Low Emission Neighbourhood project started in 2019, based in line with the GLA/TfL Healthy Streets approach.	Proposals include new cycleways, new connections to existing Cycle Superhighways and a new pedestrian and cycle footbridge over Mayes Brook. Proposed improvements and consultation found here https://consultations.tfl.gov.uk/cycling/barking-riverside/ And https://tfl.gov.uk/info-for/media/press-releases/2019/june/plans-to-make-streets-safer-for-walking-and-cycling-in-barking See Link for planned improvements: https://www.lbbd.gov.uk/dagenham-heathway-healthy-streets https://www.greeningthefiddlers.org/ & https://www.london.gov.uk/press-releases/assembly/unmesh-desai/becontree-heath-set-for-green-investment & https://tfl.gov.uk/info-for/boroughs-and-communities/low-emission-neighbourhoods

		GLA funded Green Capital Grant for 'Ripple Nature Reserve and Greenway. This project includes residents in the co-design of a new 2.3 km walking and cycling route working with project managers, Sustrans. The new 'greenway' will link existing residents with new communities and facilities in the emerging Barking Riverside development. It will provide healthy, safe routes to school and access to nature, including to the Ripple Nature Reserve.	https://www.london.gov.uk/what-we-do/environment/parks-green-spaces-and-biodiversity/greener-city-fund/green-capital-grants#acc-i-52262 & http://befirst.london/new-park-will-open-up-thames-to-all/
15	Seek improvements to the public transport network that provides for the needs of residents, businesses and employees in the Borough without significant adverse impact on the environment	See actions, measures and initiatives given in #13 & #14.	

16	Encourage its employees to use public transport for work related journeys by considering measures such as free bus and tube passes. This will reduce road congestion, increase use of public transport and set an example to other employers in the Borough. It will also give the Council a greater interest in ensuring that public transport is clean, safe and convenient and should result in saving money for the Council.	In 2019, the Council was developing an active travel plan for its staff to encourage them to consider cycling and walking to work and for work related journeys – this is going through a revision following Covid19 interruptions with the aim to be delivered by 2020/early 2021. BeFirst, LBBD's regeneration partner, has a dedicated Travel Planner who's remit covers both BeFirst's staff travel plan and the Barking Riverside development Travel Plan. They are responsible for all aspects of developing, implementing, monitoring and reporting progress on the sustainable travel programme for London Riverside, including the production of an annual work programme and the development of mode share targets for all new development in the area, with the aim of achieving a significant modal shift to more active and sustainable modes of travel and securing tangible improvements to public health and the local environment.	

17	Seek to protect and improve conditions for cyclists and pedestrians and will develop a range of actions in pursuit of the strategy	The LBBD Interactive Mapping site shows all the cycle routes in the Barking and Dagenham area, as well as providing information on local points of interest. Cycle training undertaken throughout the borough. During the School Autumn term, Sustrans undertook 4 key activities: 1) Bike It Crew Workshop at William Bellamy School with school childrens' input into the 'Greening The Fiddlers' Low Emission Neighbourhood, 2) Introduction to Sustrans' 'Bike It' at St. Josephs Catholic Primary School with an interactive assembly that highlighted the benefits of active travel and how this can have a positive effect on our health, wallets and the environment, 3) Air Quality workshops with Year 4 students at William Bellamy School – learnt about the negative effects of air pollution and how reducing road vehicles can have positive effect on quality of life. The students selected locations around the school and	http://lbbd.cyclemaps.org.uk/default.asp http://londonroadsafetycouncil.org.uk/training/

		measured air quality using diffusion tubes. Results to come in ASR 2021, 4) Student Council at Robert Clack School had meeting with Sustrans and Street Space to discuss local area environmental and social issues. Students highlighted areas of concern and suggested improvements to area to create a less road vehicle-dominated environment. Sustrans worked with 7 schools in LBBD in Autumn Term 2019 and implemented the 'Bike It' scheme at the following schools; William Bellamy, Robert Clack, St. Joseph's Catholic Primary, Grafton Primary, Trinity, Five Elms and All Saints Catholic. 3 of these schools are rated by Sustran's Bike It scheme as 'exceptional'. Sustrans delivered 26 activities and engaged with a total of 653 students and 47 staff at these schools during Autumn Term 2019. Ongoing. Work started on the new linear park in Barking and Dagenham that	

		Sustrans Designed in collaboration with the local community and Council. The 1.3km (0.8 mile) walking and cycling route and new park will link the River Thames at Barking Riverside to Barking town centre. Sustrans was awarded £400,000 match funding from the Mayor of London's Green Capital Grants and Barking Riverside Ltd. for the new Ripple Greenway project in Barking and Dagenham. Community-led tree planting took place between November and December 2019.	https://www.sustrans.org.uk/our-blog/news/2019/september/our-design-for-a-new-park-starts-to-take-shape-in-barking-and-dagenham/ http://befirst.london/park-to-open-up-access-to-thames-takes-shape/ https://www.sustrans.org.uk/our-blog/news/2019/january/our-work-in-london-2019-streets-ahead/ https://www.lbbd.gov.uk/ripple-greenway-project
18	Seek to understand the social and structural barriers that prevent people from cycling where it should be convenient to do so and to find ways to overcome those barriers. The Council will liaise with TfL Centre of Cycling Excellence to obtain assistance in developing a cycling strategy	Ongoing. Sustrans 'Bike It' cycle scheme identifies the barriers affecting cycle uptake for school children and cycle-related infrastructure. See action #17.	

20	Ensure that schools encourage pupils and staff to cycle or walk to school and that adequate facilities are provided to enable this, including a network of safer routes and undercover cycle parking	See action #17. Over 500 east London school pupils took to the streets to march against car use near their school on 22nd May 2019. The protest by children from Manor Junior School in Barking was part of Living Streets' national campaign, Walk to School Week. Manor Junior School has been working closely with Barking and Dagenham Council and Be First, the council's regeneration company, to encourage cycling and walking to school and reduce congestion.	http://befirst.london/champions-of-change-take-to-the-streets/
24	Publicise the advantages and benefits of walking for shorter journeys	Barking cycleway: Work to start early next year, 2021, on bike route linking Barking Riverside and Barking town centre.	https://www.barkinganddagenhampost.co.uk/news/environment/new-cycleway-for-barking-1-6359470
25	Promote and arrange for safer routes to school and organise walking buses along these routes. Steps will be taken to	Sustrans work detailed within action #17 promotes safer routes to schools. Surveys of the school childrens' travel mode to/from school is recorded before Sustrans implement their actions, then surveyed after. The results show	

	discourage parents from driving children to school	relatively good to significant reductions in car use after Sustrans' interventions.	
32	Utilise planning conditions or section 106 agreements and work with developers to produce travel plans, which have measurable outcomes and consider financial penalties to secure compliance	Planning Conditions agreed with planning department following Environmental Health consultation and input into the LBBD's Draft Local Plan 2019 - 2024. In line with Policy SI1 of the Draft New London Plan, all major development should be demonstrably air quality 'neutral', if not improving local air quality.	https://www.lbbd.gov.uk/sites/default/files/attachments/LBBD-Draft-Local-Plan-Reg-18-Consultation-version_211119.pdf Barking and Dagenham Draft Local Plan 2019 – 2034 The Draft Local Plan includes policies that promote the management and reduction of air pollution. For example, draft policy DM26: 'Improving air quality' requires all major development to be demonstrably air quality neutral, if not improving local air quality. The policy is in draft form and there may be opportunities to strengthen this by revising the policy to reflect the emerging London Plan which requires all major developments to achieve air quality neutral or better, to improve air quality,
33	Take steps to limit the levels of private car use by Council employees in order to set an example to other employers	During 2019, Parking Services undertook an internal review of Council staff car use. However due to Covid19, a new review is required to deal with the on-going change in Council employee working practices. A new review is being undertaken in 2020 and is in line with the Council's 'Ways of Working Board - Travel to Work Workstream. The new review	

		will be designed with a principle deliverable to reduce staff parking permits per se, and significantly limiting essential and non-essential car use.	
50	Support the transport proposals in conjunction with the Thames Gateway Regeneration	Ongoing. The Council continues to play a vital role in the development and delivery of the East London Sub Regional Transport Plan (ELSRTP), working closely with TfL and neighbouring authorities on a wide range of transport initiatives, including: • River crossings – advocating the need for new crossings in East London, including a fixed link at Gallions Reach; • High Speed Rail – making the case for HS1 domestic and international services to connect with HS2; • Crossrail2 – developing the case for an eastern branch to support the levels of planned growth in the Thames gateway area; • Bus services/infrastructure - making the case for new links, including between Barking and the Royal Docks;	

		• Smarter travel –developing a cycle strategy and supporting air quality improvement initiatives.	
56	Continue to provide Operator Forums to encourage networking between operators of similar processes and to provide information and advice about legal requirements and developments within each sector	Ongoing. The Council hosts quarterly Public Transport Liaison Group (PTLG) meetings where issues regarding all aspects of public transport services/operations are discussed.	
76	Promote the car-sharing scheme and encourage staff to take part	Zipcar car club scheme operates within Barking Town Centre near multiple existing and large, new residential developments and Council offices. This scheme is promoted by LBBD council. 2019 increase in memberships from 1135 to 1639 = 44% increase. At the end of 2019, there has been an increase of 146% from when Zipcar started in LBBD in Jan 2018.	
Planning related			

28	Support and encourage an increase in the use of the River Thames as a freight corridor.	Policy DMNE 4: 'Water environment' developed in 2019 for the draft Local Plan to '*maximise the use of the river for freight, including for the transportation of construction materials to, and waste from a development site either directly to/from the site or through the supply chain'.* Also, POLICY DMSI 9: Demolition, construction and operational waste asks for similar.	https://www.lbbd.gov.uk/sites/default/files/attachments/LBBD-Draft-Local-Plan-Reg-18-Consultation-version_211119.pdf
29	Actively support the movement of freight in and out of the Borough	STRATEGIC POLICY SP8: Planning for integrated and sustainable transport' developed in 2019 for the draft Local Plan to '*identifying and safeguarding new sites/space and route alignments, as well as supporting infrastructure and sites which allow for modal shift of freight from road to rail or river'*	https://www.lbbd.gov.uk/sites/default/files/attachments/LBBD-Draft-Local-Plan-Reg-18-Consultation-version_211119.pdf
32	Utilise planning conditions and work with developers to produce travel plans, which have measurable outcomes and consider financial	POLICY DMM 1: Planning Obligations (Section 106) developed in 2019 for the draft Local Plan for '*The Council may use planning obligations… to require transport assessment including travel plans for developments*;	

	penalties to secure compliance.		
46	Encourage the siting of new commercial and industrial developments close to the public transport network and oppose major developments that do not include adequate access to public transport and cycling facilities.	In terms of progress we have the Local Plan (formerly LDF). Development is encouraged near public transport hubs and high PTAL areas.	
68	The Council will ensure that district heating, CHP and renewable energy are considered for large-scale housing developments in the Borough including the new waterfront developments at Barking Reach and Dagenham Docks and in the Heath Park area.	Recognising the opportunity in delivering decentralised energy networks, Barking & Dagenham created its own energy services company, B&D Energy, in July 2016. IN 2019, £1.5m was approved for the business plan . In 2019, plans were approved to build a further 525 homes in the Gasgoine Estate with low energy provision via the district heating scheme that operates in the area.	http://befirst.london/green-gascoigne-estate-will-set-new-environmental-standards/?doing_wp_cron=1591107945.6242289543151855468750

		Ongoing, we have local planning policies regarding sustainable development and major schemes are required to comply with London Plan Policy (use less energy, supply energy efficiently, use renewable energy) and the Mayors carbon reduction targets.	
71	Through Planning, the Council will provide support for embedded photovoltaic generation and provide information and assistance to developers.	We require energy assessments and reporting on carbon reduction in line with regional and national policy for major developments. In October 2019, the council's Cabinet approved the appointment of E.ON as our preferred partner to fund and install ECO3 retrofitting measures to qualifying households, across all tenures, under our Cosy Homes scheme. This scheme runs until November 2021.	https://www.lbbd.gov.uk/environment-strategies
72	Investigate best practice solar water heating and ensure that information is provided to all developers at the	The Council supports the use of renewable and sustainable energy production. In 2019, LBBD and B&D Energy company produced a information document for developers - 'Barking Town Centre District Energy Scheme' similar to a	https://www.lbbd.gov.uk/sites/default/files/attachments/Barking-Town-Centre-District-Energy-Scheme-information-for-developers-and-carbon-factors.pdf

	appropriate planning stage.	Supplementary Planning Document for planning and design stages.	
	Identify premises which do not have necessary Pollution Prevention and Control (PPC) permit to operate.	Commenced review of the borough 2019 to identify unregulated activities which are breaking the law and giving rise to unchecked emissions. In 2019, 3 businesses were identified as needing a permit and have subsequently applied (2 cement works, and one wood machining/incineration process).	
	Air quality audits of schools	Commenced air quality audit of primary schools which have areas used by pupils which are exposed to a predicted annual average concentration of NO2 > 40 µg/m3.	
extra lines below are for new projects and/or initiatives that have commenced since the last AQAP was published.			
	Participation in the Pan-London Anti-Idling campaign in conjunction with the London Borough of Camden	Vehicle Idling Action is a London-wide behaviour change campaign which is helping to reduce localised air pollution caused by motorists leaving their engines running when parked.	www.idlingaction.london

		The project involves 31 local authorities. Launched in October 2019 and running until March 2022, the project includes school workshops, school assemblies, anti-idling action and enforcement events around schools, fleet training programmes and Council communications releases on anti-idling. These were due to be delivered in Year 1 (2019-2020) however COVID-19 interruptions in schools means that activities must now be postponed until later in Year 2 (2020-2021). A lot of project planning and delivery management was undertaken in 2019. Project updates to be provided in next years' ASR.	
	Participation in the Pan-London Non Road Mobile Machinery registration campaign in conjunction with the London Borough of Merton.	Cleaner Construction for London undertook 13 site audit(s) in the borough of Barking & Dagenham in between May 2019 and February 2020. 2 site(s) achieved Self-Compliant status, 11 site(s) worked towards and achieved Compliance and 0 site(s)	https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/nrmm

		failed and were recorded as non-Compliant. 31% of sites audited were cold engaged and therefore not registered prior to auditing	

3. Planning Update and Other New Sources of Emissions

Table K. Planning requirements met by planning applications in the London Borough of Barking and Dagenham in 2019

Action	Number	Notes
a) Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	*13*	
b) Number of planning applications required to monitor for construction dust	2	
c) Number of CHPs/Biomass boilers refused on air quality grounds	0	
d) Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions	0	
e) Number of developments required to install Ultra-Low NO_x boilers	0	
f) Number of developments where an AQ Neutral building and/or transport assessments undertaken	6	
g) Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation		
h) Number of planning applications with S106 agreements including	0	

other requirements to improve air quality		
Number of planning applications with CIL payments that include a contribution to improve air quality	0	
i) NRMM: Central Activity Zone and Canary Wharf Number of conditions related to NRMM included. Number of developments registered and compliant. Please include confirmation that you have checked that the development has been registered at www.nrmm.london and that all NRMM used on-site is compliant with Stage IIIB of the Directive and/or exemptions to the policy.		
NRMM: Greater London (excluding Central Activity Zone and Canary Wharf) Number of conditions related to NRMM included. Number of developments registered and compliant. Please include confirmation that you have checked that the development has been registered at www.nrmm.london and that all NRMM used on-site is compliant with Stage IIIA of the Directive and/or exemptions to the policy.	2 site(s) achieved Self-Compliant status, 11 site(s) worked towards and achieved Compliance and 0 site(s) failed and were recorded as non-Compliant. 31% of sites audited were cold engaged and therefore not registered prior to auditing	

We recognise that this table has been difficult for some boroughs to complete, either because planning data is not collected or not collected in a form that is easily translatable into the table. The purpose of each row in the table is to assess implementation of GLA planning or policies. An additional column has been added for notes where you can note any qualifications to the data or local policies that are relevant (e.g. use of standard conditions).

Notes on the table:

a. The purpose of this row is to identify whether all applications that are submitted with an air quality assessment or EIA are checked by the air quality officer/team. The requirement to

submit an assessment is subject to local validation criteria, however the new London Plan specifies that all major developments should be accompanied by an assessment, so this should equal at least the number of major applications received once the new London Plan is finalised.

b. The purpose of this row is to understand how widely active dust monitoring is used on construction sites. Dust monitoring is recommended in the GLA Control of Dust and Emissions during Construction and Demolition SPG for some high-risk sites. This number should include all sites where monitoring is required by condition or secured as part of a construction management plan or similar.

c. This purpose of this row is to understand how far air quality policies are influencing the design or choice of communal heating systems. For the purposes of recording, "refused" should include applications where air quality impacts from the heating system are included in the reasons for formal refusal and applications where the energy strategy has been revised post-submission to remove CHP or biomass as a result of air quality concerns raised during the decision-making process.

d. The purpose of this row is to ensure that the emissions limits for CHP and Biomass set out in Appendix 7 of the GLA Sustainable Design and Construction SPG are implemented. You should only count instances where compliance with these limits (or tighter limits, if required) have been secured by condition. You may want to note instances where conditions have not been imposed in the notes column.

e. This row should record the number of planning permissions where use of ultra-low NO_x boilers were required as a direct condition or as a condition securing conformity with submitted documents, not the total number of boilers. Where standard conditions are used it is sufficient to say all developments, or all developments that meet a particular threshold (or however the decision to use standard conditions is done.)

f. The purpose of this row is to identify how well applicants are implementing the requirement to undertake an air quality neutral assessment as part of the overall air quality assessment for developments.

g. This row is intended to identify how challenging it is for developers to meet air quality neutral and should count the number of applications where the initial air quality neutral calculation showed the benchmarks were not met and additional on-site mitigation measures were agreed with the developer prior to grant of consent.

h. These rows should be used to record the number of developments where payments of off-site measures were secured from the developments. This could be measures in lieu of meeting Air Quality Neutral on-site or other actions and payments relating to local policies or needs. It is not necessary to provide the amount of financial contributions.

i. These rows should record the number of planning permissions where compliance with the NRMM LEZ is required as a direct condition or as a condition securing conformity a code of practice or a CMS requiring compliance. Where standard conditions are used it is sufficient to say all developments, or all developments that meet a particular threshold (or however the decision to use standard conditions is done.)

Planning applications review and determinations is dealt with by Environmental Health being a key internal stakeholder as part of the planning process. Human resource capacity within Environmental Health is adequate to ensure all relevant and/or major planning applications are reviewed for air quality. Planning conditions regarding air quality and NRMM have been agreed with the planning department. These conditions are suggested to planners as part of the planning applications' internal consultation. NRMM planning conditions are enforced by the Cleaner Construction for London consultants as LBBD is part of the pan-London NRMM compliance scheme (details provided in Table K)

3.1 New or significantly changed industrial or other sources

No new sources identified

Appendix A Details of Monitoring Site QA/QC

A.1 Automatic Monitoring Sites

Barking & Dagenham 1 (at Rush Green (BG1)) – this is a suburban background site towards the northeast of the Borough. It is around 150m to the south of the A124. This site has been operating since November 1999. The site monitors nitrogen dioxide and sulphur dioxide.

Barking & Dagenham 2 (at Scrattons Farm (BG2)) – this is a suburban site approximately 200m south of the busy A13 in Dagenham, which is towards the centre of the Borough. This site started operating since October 1999 and the sample inlet is located around 2.5m above ground level. The site monitors nitrogen dioxide and PM10 (by TEOM).

The above sites are also representative of relevant exposure. All the sites are part of the London Air Quality Network (LAQN) operated by King's College London and therefore the standards of QA/QC are similar to those of the government's AURN sites. Regular calibrations are carried out, with subsequent data ratification undertaken by King's College London. In all cases the data are fully ratified unless reported otherwise.

Further details of the monitoring can be found at www.londonair.org.uk .

PM_{10} Monitoring Adjustment

The Council uses a TEOM instrument, which was not found to be reference equivalent.
However, when the VCM (Volatile Correction Model) correction is undertaken the TEOM data are considered to meet the equivalence criteria.

The VCM method assumes that the volatile component of PM10 lost during the heated sampling of PM with the standard TEOM is consistent across a defined geographical area. The model uses the FDMS purge measurement as an indicator of this volatile component. As FDMS instruments have met the equivalence criteria, the VCM correction is also considered equivalent to the European reference method.

The Volatile Correction Model adjustments to PM10 TEOM measurements for 2015 are provisional but any further changes are likely to be minor.

A.2 Diffusion Tube Quality Assurance / Quality Control

The previously operating diffusion tube monitoring programme ceased in 2018/2019. LBBD recently started a diffusion tube monitoring programme which includes 10 locations around the borough following national and regional guidance on deploying diffusion tube monitors. Information on these diffusion tubes will be provided in the ASR 2020.

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

RUSH GREEN A.Q MONITORING STATION NO^2 ANNUALISATION FOR 2019

Data Capture for 2019 = 39%.

Period Mean for annualising is 18th May to 18th September 2019. All data is lost outside of this date range – informed by ERG.

Annual mean figure for 2019 is 16 microgrammes (without annualisation).

Period Mean during above date range is 13.82 microgrammes p/m^3.

Background Site	Annual mean (Am)	Period Mean (Pm)	Ratio (Am/Pm)
A -Priory Park, Harringey	22	17.4	1.26
B – Belvedere West, Bexley	21	14.4	1.45
C – Slade Green, Bexley	22	15.0	1.46
D – Scrattons Farm, LBBD	24	14.3	1.67
		Average Ratio	**1.46**

Calculated Annualised Concentration

Period Mean (13.82) x Average Ratio (1.46) = **20 microgrammes p/m^3.**

Distance Adjustment

If an exceedance is measured at a monitoring site which is not representative of public exposure, use the procedure specified in LLAQM.TG(16) to estimate the concentration at the nearest receptor and describe the process followed here.