



Update on Local Air Quality Management

Environment and Climate Change Scrutiny Panel

25.10.23

Air Quality, Electric Vehicle Infrastructure, Energy & Climate Change,
Public Protection



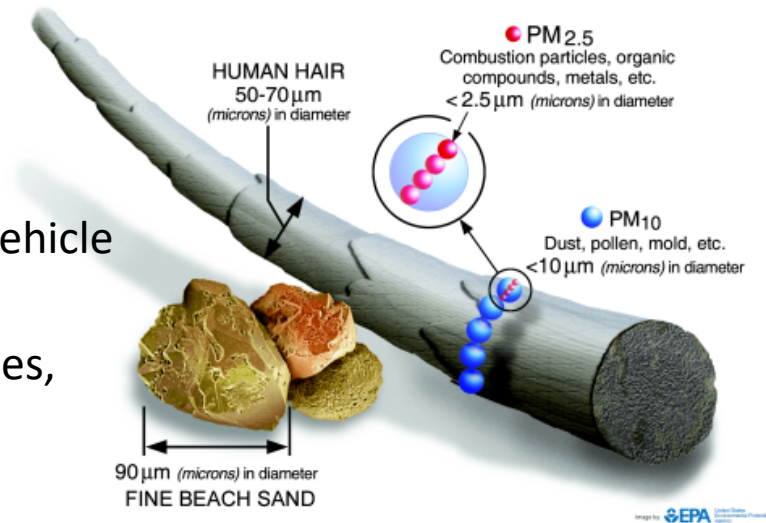
Background

- Environment Act 1995 introduced Local Air Quality Management (LAQM) - statutory duty, to review and assess air quality within the district, and take action where air pollution concentrations were found to be breaching legal, health-based standards
- Ten previously declared air quality management areas (AQMAs)
- Air Quality Action Plan 2019-2024 ([Kirklees Air Quality Action Plan](#))
- Progress with improving local air quality detailed within the Council's Air Quality 2023 Annual Status Report- submitted to DEFRA annually.
- Main findings of 2023 Annual Status Report detailed within this presentation.



Air Pollution- Explained

- Air pollution has a significant effect on public health, and poor air quality is the largest environmental risk to public health in the UK (Public Health England).
- Air quality across the Kirklees is generally good, that is, if we consider national trends or if we compare ourselves with other local authorities or London.
- There are however air pollution hotspots in Kirklees where it has been necessary to declare Air Quality Management Areas (AQMA).
- AQMA is an area where nitrogen dioxide or NO_2 (a colourless gas) associated with vehicle emissions consistently exceeds the legal limit of 40 ug/m^3 (annual average).
- Or where Particulate Matter (PM_{10} or $\text{PM}_{2.5}$) associated with dust (industrial processes, construction, brake, tyre) or vehicle soot are higher
 - PM_{10} relates to particles less than 10microns, $\text{PM}_{2.5}$ = particles less than 2.5microns.
 - Nitrogen Dioxide is the primary pollutant in 9 of the 10 AQMAs
- AQMAs are typically areas where houses are built up and close to busy roads. This result in poor dispersion of pollutants due to a “canyon” effect.



Kirklees Air Quality monitoring update (Annual Status Report)

- The Annual Status Report (ASR) provided in the report, is an annual document which provides an overview of air quality monitoring and our Air Quality Action Plan progress.
 - The ASR is published annually on our website: [Air pollution | Kirklees Council](#)
- It is required to be submitted to DEFRA annually, providing progress and monitoring results.
- The report undertakes a review of the past year so although called the ASR 2023, it reports on air quality the year before i.e., 2023 reports on the period January 2022 to December 2022 as well as previous years.
- The ASR reports on AQ monitoring that takes places across the Borough. These sites are chosen to gather data at locations close to motorway influenced roads, 'A' road junctions or key commuter roads prone to congestion with nearby receptors.
- After submission, DEFRA confirm approval and ratification of the report. They also provide feedback each year after the LA submission and confirmation.



Kirklees Air Quality monitoring

Automatic Monitoring sites:



Automatic Monitoring Station



Diffusion Tube



Zephyr Sensor



Air Quality- Links to Public Health

Air pollution affects everyone but there are **inequalities in exposure** and **the greatest impact on the most vulnerable**

older people
(65 and older)



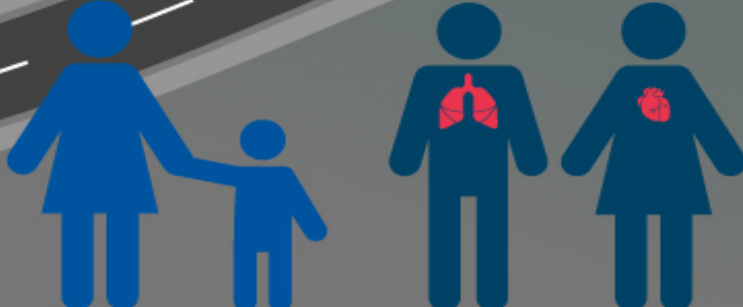
pregnant women



communities with poorer air quality
(eg. those situated closer to main roads)

those with cardiovascular disease and/or respiratory disease

children



Health effects of air pollution

short-term effects

exacerbation of asthma

cough, wheezing and shortness of breath

episodes of high air pollution increase respiratory and cardiovascular hospital admissions and mortality

long-term effects

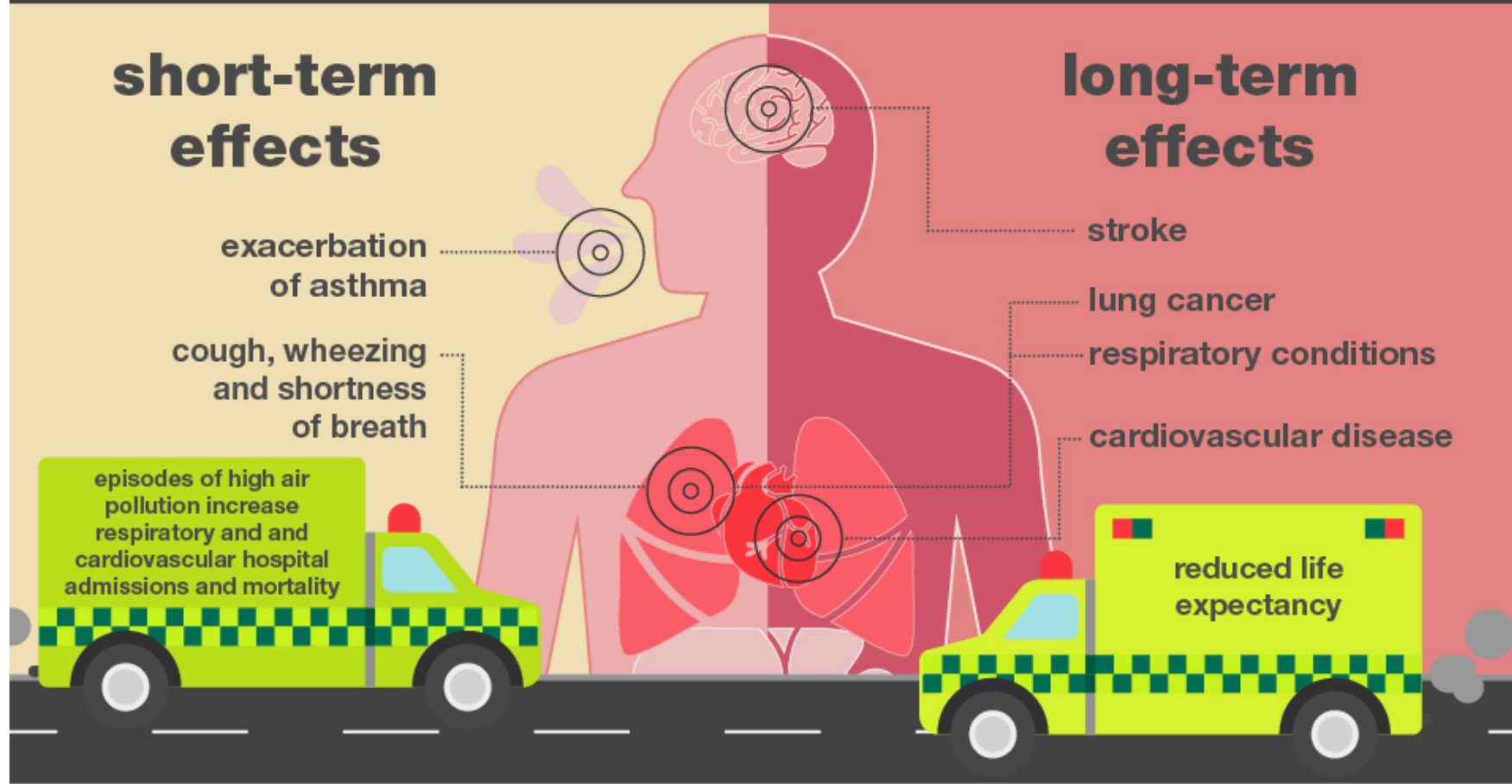
stroke

lung cancer

respiratory conditions

cardiovascular disease

reduced life expectancy

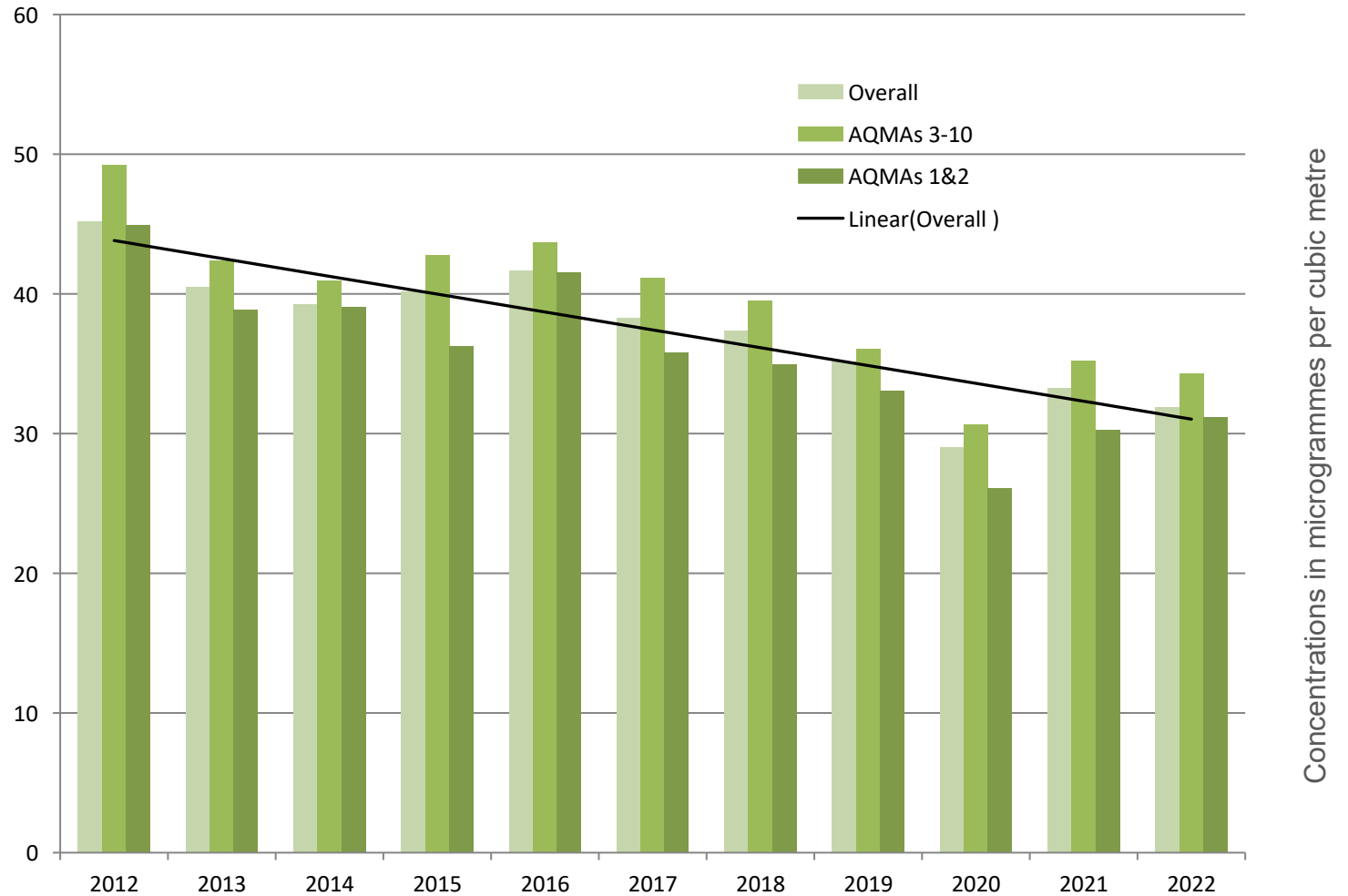


Trends In Annual Average NO₂ concentrations

Overall decline in concentrations since 2012, combination of local and national actions

Concentrations within three AQMAs meeting legal standard for last 5 years

However, continued breaching of legal standard in another 3 AQMAs in 2022



Kirklees Air Quality Management Areas

AQMA Name	Location	Pollutant/ AQ Objective	Level of Exceedance	
			At Declaration	Now
AQMA 1*	Cooper Bridge and Leeds Rd/Bradley Rd junction	NO ₂ 40 µg/m ³ Annual mean	73 µg/m ³	31 µg/m ³
AQMA 2+	A644 Huddersfield Road, Ravensthorpe	PM ₁₀ 24 Hour Mean	43 days	N/A
AQMA 3*	(A629) Halifax Rd and Ainley Top	NO ₂ 40 µg/m ³ Annual mean	44 µg/m ³	27 µg/m ³
AQMA 4*	Birkenshaw adjacent M62 and junction of A62 and A651	NO ₂ 40 µg/m ³ Annual mean	45 µg/m ³	27 µg/m ³
AQMA 5	A653 Leeds Rd, Eastborough, Dewsbury	NO ₂ 40 µg/m ³ Annual mean	60 µg/m ³	<u>44 µg/m³</u>
AQMA 6	A629, Edgerton, junction with Blacker Road	NO ₂ 40 µg/m ³ Annual mean	54 µg/m ³	38 µg/m ³
AQMA 7	A638 Wakefield Road, (Liversedge)	NO ₂ 40 µg/m ³ Annual mean	45 µg/m ³	<u>43 µg/m³</u>
AQMA 8	Properties adjacent M62, Outlane	NO ₂ 40 µg/m ³ Annual mean	54 µg/m ³	33 µg/m ³
AQMA 9	A62 Southgate, (Huddersfield town centre)	NO ₂ 40 µg/m ³ Annual mean	55 µg/m ³	<u>41 µg/m³</u>
AQMA 10	A62 Manchester Road, Longroyd Bridge / Thornton Lodge	NO ₂ 40 µg/m ³ Annual mean	47 µg/m ³	39 µg/m ³



Kirklees Roadside NO₂ – percentage change in annual average concentrations

A positive percentage change represents a reduction in annual mean NO₂ concentrations, whilst a negative percentage change represents an increase in annual mean NO₂ concentrations

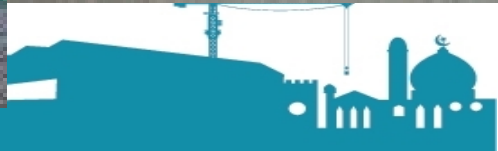


Case Study, consideration of an additional action

- AQMA No. 5 Leeds Road, Eastborough, Dewsbury
- Highest concentrations within Kirklees, breaching of the annual mean objective for NO₂ gas
- Steep hill, uphill gradient, small number of houses affected
- Additional actions required – new and innovative solution, shouldn't rely on longer term vehicle upgrades to resolve AQ issue.
- £500K External funding sought through Defra AQ grant, announcement expected Spring 2024. Bid proposed an innovative Air Quality solution provided by Pollution Solutions, called **Roadvent**. Grant scheme highly competitive.
- Roadvent works by extracting exhaust fumes/AQ pollution from within the road area and funnelling through a filtration system to mitigate the AQ impact and lower AQ concentrations.
- Laboratory test result suggests Roadvent could be an effective solution but will need to assess in 'real world' scenario/on location. Pilot could be used to showcase to other LA's successful solution.



Innovative Solution- Pilot Opportunity (if grant application successful)



Trends In Annual Average NO₂ concentrations

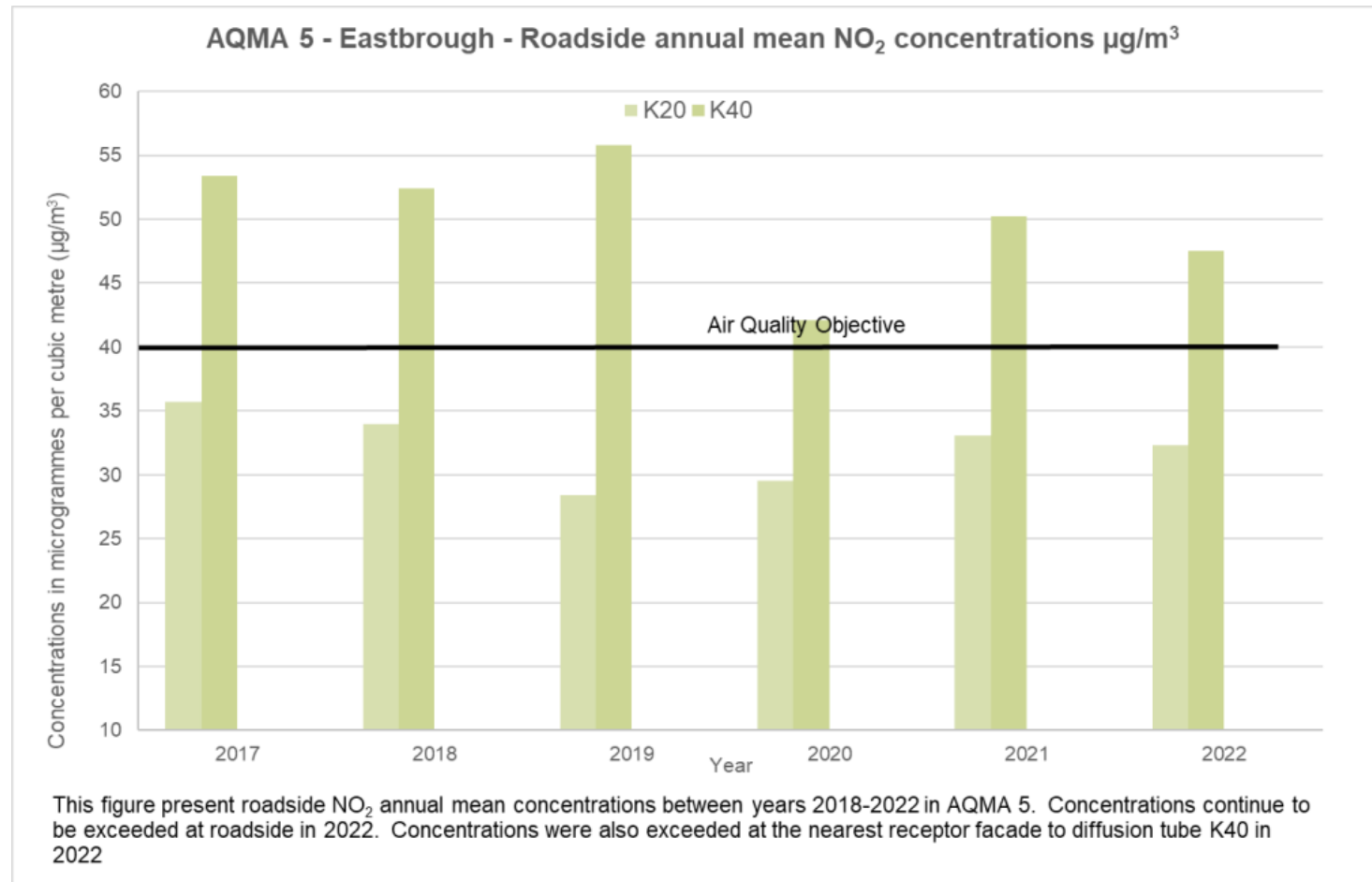
Uphill gradient, increased emissions

Residential properties close to roadside



Close to Eastborough Junior and Infant School, schoolchildren walking and playing in the AQMA

Busy commuter route to Leeds and M62



Air Quality Action Plan 2019-2024

- Coming to the end of current five-year plan, to be revised
- Stakeholder contributions and officer Steering Group
- Plan revision to take account of existing and predicted AQMA status
- Development of a complimentary Air Quality Strategy at the same time



Development of the Air Quality Action Plan and Air Quality Strategy

- Air Quality Action Plan (AQAP) - AQMAs
- Air Quality Strategy – whole of Kirklees
- Link to other strategies
 - National, Regional, Local
- **Partnerships**
 - Officer
 - Community (public consultation), Ward Members etc.
 - External
- Consideration of existing and additional actions
- Use of existing internal funding and proactively seek external funding opportunities (e.g., Defra Air Quality Grant bid) to fund action plan measures
- Embed air quality within Council work



Environment Act 2021- ongoing watching brief

- Air quality was identified as a focal point of the Environment Act 2021
- There are a number of air quality measures within the Act which range from the high level to the very specific. Secretary of state can set legal targets for:
 - Fine particulate matter (PM_{2.5}) - an annual mean target of 10 µg/m³ by 2040 (national target but local authorities expect to contribute to meet target)
 - Strengthens powers under 1993 Clean Air Act – more powers to reduce particulate matter emissions from domestic sources
 - Environment Act 2021 requires local to secure and maintain air quality standards, including revision of AQAP if new measures required
 - DPHs closely involved with development of AQAPs and AQS to align with public health work
 - Partnership working



Next Steps 2023-2025

- Completion of West Yorkshire Low Emission Strategy with WY partners
- Create Air Quality Action Plan Steering Group
 - Approach Public Health to Chair the group and encourage joint working
- Draft Air Quality Action Plan and Air Quality Strategy
- Formal consultation process, review comments and incorporate where appropriate
- Adoption of Plan and Strategy
- Revocation of AQMAs where appropriate
- Publication of Air Quality Annual Status Reports





Any Questions?

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