

Smoke free zone

Cleaning the air for healthier modern cities
Smoke control in post-war Manchester
Martin Dodge

Black smoke billowing out of factory chimneys was regarded by many as a sign of economic success for cities in the north of England. Huge quantities of bituminous coal burnt in steam boilers powered the machinery that made the fortunes of mill owners across the textile region. Manchester in particular greeted visitors with the 'incense of industry'.

Through the 19th century massive volumes of sooty particulates and sulphurous smoke fell upon homes and commercial buildings and turned the Pennine hills, facing the prevailing wind, black and barren. The dirty, polluted air was inhaled daily by inhabitants and contributed to high levels of respiratory disease in Manchester and other towns. When smoke combined with fog, the resulting smog significantly reduced the sunlight reaching urban residents; this was a causal factor in the incidence of rickets and contributed to low life expectancy in industrial cities.

"It is no exaggeration to say that many millions of inhabitants of the north of England have never seen real sunlight in their places of residence except in the event of a bank holiday or of a coal strike, and most of them have become so inured to this deprivation that they are profoundly sceptical as to any possible remedy." *

Significant pressure by health reformers in the second half of the 19th century led to better sanitation and reductions in water-borne pollution, but attempts by campaigners, such as the Manchester and Salford Noxious Vapours Abatement Association (NVAA), to highlight the dangers of smoke and seek to limit emissions were dismissed as unrealistic or simply unnecessary.

Days of dense smog lying across Manchester were common throughout the early decades of the 20th century. The French impressionist Adolphe Valette captured this murky daytime atmosphere in his Edwardian era paintings. Residential expansion in Manchester through the interwar decades contributed as much to air pollution and smog days as did the big chimneys of the mills and factories. Many tens of thousands of ordinary homes across the city were consuming daily bucketfuls of coal on open fires, in stoves and kitchen ranges. Domestic smoke pollution was more problematic, compared to that from factory chimneys, at it came from so many sources and these were low to the ground.

Given that Manchester was so notorious for its air pollution it was perhaps not a surprise that local campaigners and civic leaders in the council took the lead in finding solutions in the 1930s. The National Smoke Abatement Society had its headquarters in Manchester during this period. The major innovation was to set up 'smoke control zones' that required householders and property owners to convert their heating and cooking equipment to use cleaner fuels. However, despite the development of many electrical domestic appliances and the possibilities of central heating, at the start of the 1950s some 40 million tons of coal was being consumed domestically across the country for space heating and cooking.

The first 'smokeless zone' in Britain was affirmed legally in the Manchester Corporation Act of 1946 but did not come into force on the ground until 1952. It covered 104 acres of the city centre; around 1,100 premises had to comply. The size of the zone was extended incrementally over the next couple of years.

* Lord Newton, Chairman of the
Departmental Committee
on Smoke Abatement

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In the winter of 1952 there was a dramatic and long-lasting smog incident that afflicted much of London and contributed directly to the deaths of over 4,000 people. This spurred the government to action and the report of the official enquiry noted that it would cost less to legislate for clean air than to let pollution continue and have to deal with collateral financial costs. The most significant principle of the Beaver Report was that clean air should be seen as being as essential to human health as clean drinking water. The report recommended that concrete policies should be developed to reduce smoke levels by 80% in 15 years for populated areas of the country. In response the 1956 Clean Air Act was passed giving powers to achieve this, particularly in section 11:

Any local authority may, by order confirmed by the Minister, declare the whole of the district of the local authority or any part thereof to be a smoke control area.

Subject to any exemptions and limitations for the time being in force under this section, if, on any day, smoke is emitted from a chimney of any building within a smoke control area, the occupier of that building shall be guilty of an offence.

Following the passage of the Clean Air Act, Manchester Council and the neighbouring authorities took action on major polluters and sought to ban smoke emissions across large areas. Still, it was laborious and time consuming to define smoke control areas, notify occupants, mitigate local opposition and enforce compliance. Much of greater Manchester area was covered by smokeless zones by the mid-1970s, some 15 years after the Clean Air Act was introduced. The process was not quite complete by this point – the two missing patches evident on the map are Trafford Park and the corridor along Ashton Old Road, which were both still major industrial areas.

The efforts in enforcing smoke control were worth it, with very evident reductions in levels of smoke pollution in Manchester and to a lesser extent a decline in sulphur dioxide emissions. Improving air quality was helped by the phasing out of steam trains by British Rail by 1968. Structural economic changes saw the closures of heavy industry and 'cleaner' manufacturing systems being developed. In the domestic sphere there was finally a move away from coal fires as part of broader post-war consumer affluence and in the 1970s the arrival of cheap natural gas from the North Sea resulted in a wholesale shift to central heating.

The dirty and dismal character of the built environment that afflicted Northern industrial cities like Manchester, caused in a large part by air pollution, was also markedly changed by programmes from the late-1960s onwards to clean the exteriors of public buildings of their layers of soot. The resulting transformation of familiar landmarks, like Manchester Town Hall, which had for living memory been stained inky black, could be dramatic. This arguably contributed to the conservation of Victorian buildings as people could more readily appreciate their architectural merit.

Dramatic improvements in pollution levels were achieved by sustained local government action in the post-war decades and today it is evident that the skies are visibly clear of smoke. However, the scourge of air pollution and its impacts on human health have not been solved. The most pressing concern in recent years has been the toxic emissions caused by the volumes of vehicle traffic in Greater Manchester. This is exacerbated by heavily congested roads and motorways in the region. Diesel cars, buses and HGVs are the worst polluters, with high concentrations of CO₂ and NO_x along commuting corridors, around major junctions and beside the motorways in Manchester. Recent concern has focused on the health risks of invisible particulate matter (PM₁₀s) that for residents living near the busiest roads regularly exceeds legally permitted safety levels.



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