

MITIGATING DEVELOPMENT Air Quality Impacts

MITIGATION HIERARCHY	GOOD PRACTICE EXAMPLES
Prevention >	I. Preventing or avoiding exposure/impacts to the pollutant in the first place by eliminating or isolating potential sources or by replacing sources or activities with alternatives.
	Making a potentially polluting development a car-free scheme (and free from other vehicles if relevant).
	Making a potentially polluting development a zero-emissions car/vehicle- only scheme.
	Use of zero or low emission energy system e.g. solar panels, ground/air source heat pumps instead of gas fired boilers and/or CHPs.
	Connection of development to a District Heating Network (DHN). If a DHN is not currently available, the scheme could be designed to allow easy connection to a future DHN.
Reduction >	II. Reduction and minimization of exposure/impacts.
Mitigation measures that act on the source	Limiting number of parking places provided for the new development.
	Preferential parking for low emission or car club vehicles or graduated parking charges based on emissions.
	Provision of low vehicle emission infrastructure (e.g. electric vehicle charging bays, low emissions fuelling points).
	Agreement to achieve the specified emissions standards for commercial and/or service vehicles for the development.
	Alteration of road layouts so cyclists and pedestrians have priority.
	Ensure there is sufficient cycle parking.
	Consider if cargo cycle facilities and micro-consolidation services are feasible for the site.
	Promoting and putting a car club in place at the development (to reduce absolute use and/or to give access to low-emissions vehicles e.g. electric cars).
	Development and promotion of cycle-rental schemes.
	Travel plans, Delivery and Servicing Plans and/or Car and Cycle Parking Management Plans.
	Provide vouchers for alternatives to private car use.
	Provide public transport subsidies for residents/employees.
Investing in local walking and cycling initiatives.	
Mitigation measures that act on the pathway	Scheme amended to increase the set-back distance of sensitive-uses from sources of pollution (e.g. a busy road).
	Changes to building orientation and/or internal layout to increase effective separation distances of "habitable rooms" from air pollution sources (e.g. busy road) by placing corridors, stairwells, bathrooms, utility rooms, cellars, etc on the worst affected façade. Similarly, consider less-sensitive uses for the lower floor(s).
	For mechanically ventilated buildings, locating air-intakes away from the main source of air pollution.
	Changes to scheme design to avoid creating a street canyon and trapping pollutants at receptors.
	Installation of bunds or barriers that interrupt the transport of polluted air to receptors. (Poorly placed barriers can worsen air quality so get in touch if you are not sure).
	Installing green infrastructure (e.g trees) at locations between source and receptors (Poorly placed green infrastructure can worsen air quality so get in touch if you are not sure).
	Increasing the height of the emission source (eg. Flue or stack) to increase dispersion of pollutants.
	Increasing the velocity and/or temperature of stack gases to increase dispersion of pollutants.
Mitigation measures at or close to the point of receptor exposure	Building designed without indoor combustion pollutant sources that would otherwise add to occupants' exposure (e.g. fit electric cookers). Electric water/space heaters, or centralised/ community water/space heating.
	For mechanically ventilated buildings, fit filters for incoming air and maintain filters in accordance with manufacturer's recommendations.
	For naturally ventilated sensitive-use buildings, consider mechanical ventilation.
	Installing green infrastructure (e.g. certain trees, green planting/walls and screens) at receptor locations. Poorly placed green infrastructure can worsen air quality so get in touch if you are not sure).
	Installing air-tight windows (still openable at residents' discretion).
Offsetting >	III. Off-setting a new development's air quality impact by proportionately contributing to air quality improvements elsewhere.
	Contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from the new development.
	Working with the relevant planning authority or nearby property owners to identify suitable NOx and PM abatement measures off-site in the vicinity of the development.
	Contribution (can be a financial one) to help the authority develop and implement its action plan.
	Contribution to specific traffic management or road schemes.
	Contributions to local plans, related to the actual impact.
	Scheme designed to allow potential future connection to a District Heat Network.

The above hierarchy is a starting point; however, final selection of the appropriate mitigation solution should be based on the professional judgement of an appropriately qualified and experienced air quality professional on the costs and demonstrable efficacies of measures to proportionately reduce the impact for the development site in question.

For more information contact:



Kathryn Barker
Associate - Air Quality
T: +44(0)1273 546 876
E: kathryn.barker@rps.tetrattech.com



Dr. Steven Lees
Associate Air Quality
T: +44(0)1273 546 805
E: steven.lees@rps.tetrattech.com