CODE OF GOOD PRACTICES FOR CITIES AIR QUALITY PLANS

Part IV

Inspiring Examples

Comune di Milano

European Commission

AGENZIA MOBILITÀ AMBIENTE TERRITORIO

Committed by

Partnership on Air Quality - Urban Agenda for the EU

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Partnership on Air Quality

The Urban Agenda for the EU - consolidated with the Pact of Amsterdam, agreed on 30 May 2016 by the EU Ministers responsible for Urban Matters - has introduced a new working method of thematic Partnerships being elaborated by partners representing various governance authorities aiming to tackle social challenges by focussing on cities. It aims to promote cooperation between Member States, Cities, the European Commission and other stakeholders, in order to stimulate growth, liveability and innovation in the cities of Europe. The Partnership on Air Quality is one of the 12 priority themes of the "Urban Agenda for the EU".

The main objective of the Partnership on Air Quality is to improve air quality in cities and to bring the 'healthy city' higher on the local, national and EU agendas as part of the Urban Agenda. This will be done through improving the development and/or implementation of regulation, funding mechanisms and knowledge at all levels, as well as the coordination between them.

The Partnership's actions and recommendations also aim to contribute to the goals of the New Urban Agenda and to the targets set in the Sustainable Development Goals.

The Partnership on Air Quality is composed by:

EU Member States:

- The Netherlands (*Coordinator*)
- Croatia
- Czech Republic
- Poland

Cities:

- Helsinki/HSY[1] (FI)
- London (UK)
- Utrecht (NL)
- Milan (IT)
- Constanta (RO)
- Duisburg (DE) - representing the Consortium Clean Air Ruhr Area

Stakeholders:

- EUROCITIES
- HEAL[2]

European Commission:

- DG Regional and Urban policy (*Coordinator*), DG Environment, DG Research & Innovation, DG Agriculture, DG Growth, the Joint Research Centre.

URBACT follows the work of the Partnership as an observer.

[1] Helsinki Region Environmental Services Authority.
[2] Health and Environment Alliance.

“As a society, we should not accept the cost of air pollution.

With bold decisions and smart investments in cleaner transport, energy and agriculture, we can both tackle pollution and improve our quality of life.

It is encouraging to see that many European governments and specifically cities are showing leadership in protecting people's health by improving air quality.

Clean air belongs to everyone, including people living in cities.”

Hans Bruyninckx
Executive Director of European Environment Agency

Preface

Air pollution is one of the main environmental concerns in Europe, especially in urban areas where three quarters of Europeans live. Poor air quality in cities is associated with significant health effects which lead to huge societal and economic costs. Finding solutions to improve air quality is one of the greatest challenges for Europe.

This Code of Good Practice provides guidelines for cities for drafting and implementing of Air Quality Plans, prescriptive instruments introduced by the Ambient Air Quality Directive 2008/50/EC in order to achieve EU standards. The Code includes a presentation of other tools developed by the Partnership on Air Quality to realize the 'Healthy city'. The Code is one of the results of the actions undertaken by the Partnership on Air Quality under the umbrella of the European Urban Agenda.

Cities are places where exposure to air pollution exposure higher. They also remain the immediate level of intervention for dealing with threats to human health coming from pollutants such as nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$) and ground-level Ozone (O_3).

EU legislation introduced Air Quality Plans as compulsory for zones or agglomerations within which concentrations of pollutants in ambient air exceed Limit or Target values for protection of human health. The purpose of Air Quality Plans is to set effective measures for attaining Limit or Target Values while keeping the period of exceedance 'as short as possible'. The implementation of an Air Quality Plan can also bring other additional benefits for the quality of life in urban areas, contributing to attain the Sustainable Development Goals of the United Nations for the 2030 Agenda.

This Code is not intended to be a fully exhaustive handbook for drafting an Air Quality Plan. Nevertheless, the Partnership believes that it can be very helpful for cities that are designing and implementing air quality plans, and that it can even inspire cities that want to manage air quality issues and at the same time generate multiple benefits for their inhabitants, for the ecosystem and for the economy. This Code has also been designed to support local decision-making, by improving understanding in Air Quality plans, by showing tested ways to comply with applicable EU legislation, and by helping cities bringing down concentrations of air pollutants and thus improve public health.

The measures defined by an Air Quality Plan to reduce air pollution should address different sectors, whose enforcement and implementation are of respective competence of urban, regional, national or EU authorities, thus co-operation between different levels of governance and integration of planning undertaken at different level or in different sectors is a key factor for improving air quality in cities.

René Korenromp
Coordinator of the Partnership on Air Quality
The Netherlands, Ministry of Infrastructure and the Environment

Executive summary

The **Air Quality Plan is a strategic planning instrument** introduced by the Ambient Air Quality Directive 2008/50/EC (AAQD). The drafting on an **Air Quality Plan (AQP) is compulsory for any '*zone*' or '*agglomeration*' within which the concentrations of pollutants in ambient air 'exceed any Limit value or Target value'** designed for the protection of human health. The AAQD legislation requires that an Air Quality Plan **sets out appropriate, cost-effective measures to achieve compliance with air quality Limit or Target values** while keeping the period of exceedance '*as short as possible*'.

The adoption of an Air Quality Plan has some direct environmental and societal benefits such as the **improvement of the health of residents and city users** - with reduction of the associated economic impact - and positive feedback for climate change effects mitigation. The implementation of an Air Quality Plan can have also other **additional benefits for quality of life in cities**, contributing to reach many of the United Nations Sustainable Development Goals for the 2030 Agenda.

It is not easy to find guidelines on how to draft and implement AQP at local level that could be used by cities of different EU Member States, due to different approaches adopted at national level for implementing Dir. 2008/50/EC. Existing guidelines are not recent or mainly focus on tools for the elaboration of a plan, rather than on the legal and management processes that have to be followed for its preparation, adoption and implementation. This is the reason for drafting this Code, which is specifically designed to help cities and local authorities in charge of planning Air Quality plans comply with EU legislation and better protect the health of citizens and the environment.

The **mandatory pieces of information that must be included in an AQP** are listed in Section A of Annex XV of the AAQD (see *Section 4.1 - Mandatory Elements* and *Appendix I* of the Code). These include an analysis of the situation based on monitored AQ data and related maps of non-attainment areas, on the use of modelling tools for the assessment of pollution sources (emission inventory, source apportionment, pollutant dispersion models, etc.) and on the relative effectiveness of possible measures in achieving compliance with AQ Limit or Target values. Details of abatement measures and any associated projects adopted with a view to reducing pollution should each be listed and described in an AQP with an accompanying timetable for implementation, as well as the authority responsible for it and the related follow-up (or monitoring of the plan).

By means of Cities AQPs local administration could add to the overarching (regional and national) Air Quality planning instruments important local specific measures, that

cannot be managed at higher level of governance, counting on its peculiar tasks and powers. In the meantime, a number of measures defined as 'necessary to reach the targets' during the elaboration of a city AQP cannot be solved solely at an urban level and should address different sectors whose enforcement and implementation could be of competence of overarching authorities, such as Metropolitan area or Agglomeration, Regions, Members States or EU institutions. Thus, **co-operation between different level of governance and integration of planning regarding different sectors is a key factor** for a real improvement of cities air quality (see *Section 4.3 - Integration with other Plans and Programmes*).

Starting from April 2019 local authorities should consider the National Air Pollution Control Plan (NAPCP) compulsorily published by Member States as part of the Dir. 2016/2284/EU, the so-called National Emission Ceiling Directive (NECD). Since each Member State should draw up, adopt and implement a NAPCP with a view to complying with its emission reduction commitments, and to contributing effectively to the achievement of the air quality objectives, it is expected that adopted **NAPCP should contribute to the successful implementation of Air Quality Plans** established under Article 23 of Directive 2008/50/EC.

In accordance with the AAQD (art. 26) and the *Directive 2003/35/EC (*Public Participation Directive - PPD) **the process of drafting an AQP must be open to public participation at all stages of development** (see *Section 6.2 - Participatory approach*). To prepare this public dialogue, to improve acceptability of the proposed measures and to increase efficacy on their implementation, a good practice for cities administration, starting since the first steps of the AQP process, would be to **raise citizens awareness on AQ issues** through transparent and more accessible information on AQ monitored data, health effects related to poor air quality and disseminate good practices in transport, energy and other related sectors to reduce citizens responsibility in emission production (see *Section 6.1 - Citizens Awareness*).

The AAQD and Decision 2011/850/EU (so-called 'IPR Directive') state that once an AQP has been initiated, the relevant level of governance is required to compile, *with the help of the IPR Guidelines,* the mandatory elements with a specific procedure that automatically process data by an electronic tool, part of the *EU's* ***e-Reporting system*** *(see Section 4.5 - E-reporting format and Requirements).*

The follow-up of the AQP is performed by regular updating of the indicators set during the elaboration on the plan that would show the degree of the measures' implementation and their real impact on air quality levels.

The European Commission (EC) monitors the implementation of EU legislation in Member States to ensure that laws achieve their intended objectives and that all

countries of the EU respect the rules that have been agreed. In this context the EC through the e-reporting system controls the correct drafting and implementation of Air quality Plans in EU. Once an AQP is produced it must be communicated to the Commission within two years from the end of the calendar year in which the first exceedance was observed. If an AQP is not delivered to the legislated requirements under the relevant Directives, then **infringement procedures may be opened against a Member State**.

The Partnership observed that dynamics of measures implementation of an Air Quality Plan are to a high degree influenced by the business plans of each individual competent authority, primarily their organizational capacities and the availability of necessary financial resources. Several EU and national funds are available to prepare and implement national, regional and local air quality policies. However, an overall lack of specific programmes dedicated to funding of projects aimed at air pollution reduction has been observed and access to procedures to acquire funding for clean air projects from EU funds is considered difficult by many local authorities. Thus, the Partnership found necessary to explore ways to assess funding needs for the sustainable design/implementation of Cities Air Quality Plans, to design an appropriate **business model to fund air quality measures** and a **Guidance for cities looking for funding AQPs** that have been developed in co-operation with the European Investment Bank (See *Section 6.3 Funding opportunities*).

This Code is not intended to be a fully exhaustive guidance for the preparation and implementation of a AQP, but would be of help in the practical work and could be a source of inspiration for cities that want to manage air quality issues. This is done, starting from legislation and state of the art and presenting a list of **good practices in drafting Air Quality Plan in full compliance with Directive 2008/50/EC provisions** (*Appendix IV)* and **examples of Air Quality measures** recently planned or successfully adopted on in EU cities (*Appendix V*).

A short **list of recommendations** from the Partnership on Air Quality closes the document.

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Abbreviations and Acronyms

APHEKOM	Improving Knowledge and Communication for Decision Making on Air Pollution and Health in Europe project
AQP	Air Quality Plan
AQPs	Air Quality Plans
B(a)P	Benzo(a)pyrene
BC	Black Carbon
CHD	Coronary Heart Disease
CLRTAP	UNECE Convention on Long Range Transboundary Air Pollution
CO_2	Carbon Dioxide
COPD	Chronic Obstructive Pulmonary Disease
CRF	Concentration-Response Function
CVD	Cardiovascular disease
DALY	Disability-Adjusted Life Year; metric for indicating burden of disease based on the combination of years of life lost YLL and years lost due to disability YLD
DPF	Diesel Particulate Filter
DPSIR	Driving forces, Pressure, State, Impact, Response: causal framework for describing the interactions between society and environment, adopted by the EEA
EC	Elemental Carbon
EEA	European Environmental Agency
EEV	Enhanced Environmentally-friendly Vehicles
EU	European Union
FAIRMODE	Forum for AIR quality MODElling in Europe
GDP	Gross Domestic Product
HIA	Health Impact Assessment
COPERT	COmputer Programme to calculate Emissions from Road Transport
HBEFA	HandBook Emission FActors for road transport
HRAPIE	Health Risks of Air Pollution In Europe project
LEZ	Low Emission Zone
LTZ	Limited Traffic Zone
NAPCP	National Air Pollution Control Programme
NNRM	Non-Road Mobile Machinery
NO_2	Nitrogen Dioxide
O_3	Ozone
PAQ	Partnership for Air Quality
PM	Particulate Matter
PM_{10}	Particulate Matter with an aerodynamic diameter smaller than 10 µm

$PM_{2.5}$	Particulate Matter with an aerodynamic diameter smaller than 2.5 µm
REVIHAAP	Review of Evidence on Health Aspects of Air Pollution project
RR	Relative Risk; describes the likelihood of adverse health effects occurring in high exposed populations compared to low exposed populations
SEA	Sustainable Energy Action Plan
SHERPA	Screening for High Emission Reduction Potential on Air project
SUMP	Sustainable Urban Mobility Plan
UNECE	United Nation Economic Commission for Europe
WHO	World Health Organization
YLD	Years Lost due to Disability, a component of DALYs
YLL	Years of Life Lost, a component of DALYs
µg/m^3	Microgram(s) per cubic meter

1 INTRODUCTION

The work of the Partnership on Air Quality has allowed identifying issues of concern for many cities relating to the development and implementation of their Air Quality Plans (AQPs). Notably, it has been found that:

- ✓ access to knowledge and experiences on processes of preparing AQP (e.g. pitfalls, stakeholder interactions, governance, evaluation, etc.) from front-runner cities having already designed and implemented AQPs is often crucial to avoid inefficiencies, and that such knowledge should be improved.

- ✓ Knowledge of best practices in the selection, design, funding, and implementation of air quality measures is essential to facilitate the choice of the relatively most effective measures for the AQP, and that such knowledge should be improved.

An analysis of existing guidelines for drafting and implementing AQPs performed by the Partnership (see *Annex II* and *Annex III*) showed that there is a need for an EU-wide valid document, updated with most recent directives to guide municipalities in the process of adopting an AQP.
The Partnership identified the following actions to tackle the problem described above:

- ✓ development of a Code of Good Practice for Cities Air Quality Plans aiming to present good examples of some cities interpretation of the content listed under Annex XV, Section A of Directive 2008/50/EC.

- ✓ Assemble and keep updated the JRC register of best practices in urban air quality planning, in order to encourage the dissemination of knowledge on relevant air quality measures and facilitate comparative analysis on their relative effectiveness.

The Code of Good Practice for Cities Air Quality Plans, is one of the main products of the Action 2 - Better Air Quality Planning (Governance) included in the Action Plan of the Partnership on Air Quality, together with the updating of the Catalogue of Air Quality Measures managed by the JRC[3].

This Code of Good Practice was developed with the co-operation of the Members of the Partnership Air Quality, joining forces, competences and experiences. It is the result of a work that lasted more than a year, started with the collection of Air Quality Plans, dedicated questionnaires, and followed by technical meetings and public stakeholder engagement events.

[3] http://fairmode.jrc.ec.europa.eu/measure-catalogue.

2 INSTRUCTION FOR USE

The Code of Good Practice for Cities Air Quality Plans is organized in the way described in the followings.

Motivations to draft and implementing a City's AQP are listed in Section 3 - **Why to develop a City Air Quality Plan**, starting from compliance to EU legislation up to the contribution in reaching some United Nations Sustainable Development Goals for the 2030 Agenda.

Section 4 presents the **Content of the City Air quality Plan** starting from mandatory elements listed in Section A of Annex XV of the Ambient Air Quality Directive and considering all factors that could influence the organization of the content.

The Section 5 - **How to develop a City Air Quality Plan** contains schemes and suggestions to organize the process of drafting and implementing a City Air Quality Plan, together with a list of successful factors for the related governance.

In Section 6 - **How to manage and implement a City Air Quality Plan** are reported the key elements that need to be considered to obtain a smart process, required both by legislation and by pragmatism, based on hands-on experience.

Section 7 - **Methodology and tools for elaborating an City Air Quality Plan** contains state-of-the-art methodologies to perform the assessments needed for developing the strategy of the Air quality Plan together with practical examples selected by collected and analysed EU Cities Air quality Plans.

Each topic starts with references to the **legislation,** with citation of the related articles of directives and the description of required elements and tasks.

The Code presents **'state-of-the-art' methodologies and practices** developed in existing AQPs that present different levels of commitment (human resources, budget, computing capability, etc.).

In special boxes are presented some **examples of good practices** adopted by cities or Member States **for each topic** dealt in Sections.

In the Appendixes, apart from lists of existent guidelines for AQ planning and related tools and measures (*Appendix II and Appendix III*) some **examples** of **AQPs in full compliance with Directive 2008/50/EC** (*Appendix IV*), and **examples** of **Air Quality Measures successfully adopted** (*Appendix V*) are presented.

Close the Code of Good Practice for Cities Air Quality Plans **recommendations** from the Partnership on Air Quality about air quality planning: Good Policies, Good Governance and Good Practice (*Appendix VI*).

3 WHY TO DEVELOP A CITY AIR QUALITY PLAN

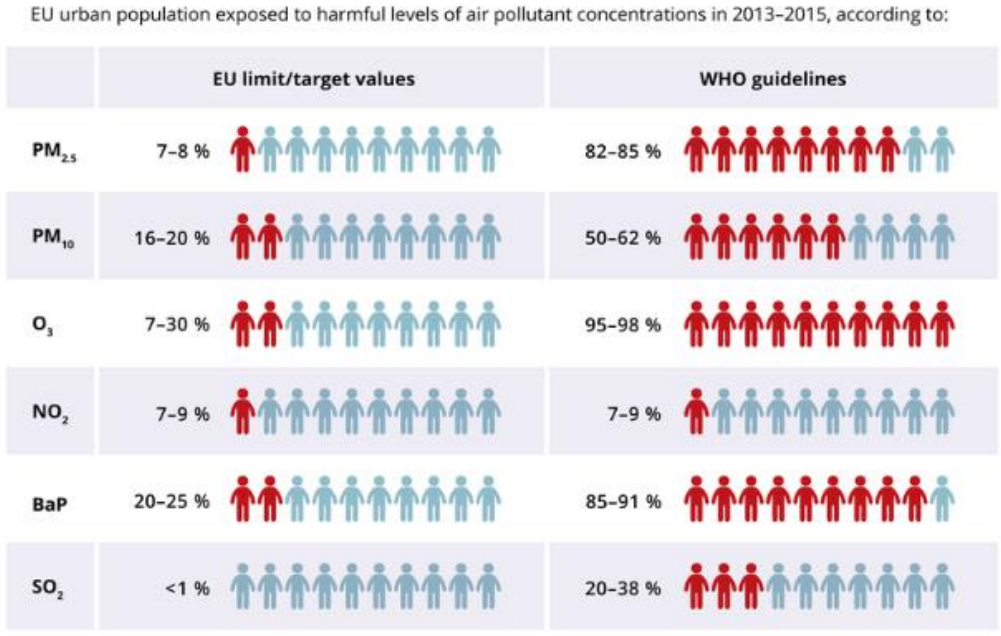
Air quality is one of the most important environmental issue in EU, being long-term exposure to $PM_{2.5}$ responsible for about 428 000 premature deaths in 2014; NO_2 and O_3 are responsible respectively for 78 000 and 14 400 premature deaths in the same year (EEA, 2017a). Reduction of life expectancy, chronic diseases, hospital admissions, medical expenses and working days lost mean a huge societal impact and an economic cost assessed around 5% of GDP for EU (World Bank-IHME, 2016).

Impact on human health is higher in cities, where hundreds of thousands to several millions people live and are exposed in direct proximity to toxic pollutants emitted by vehicular traffic, residential heating systems and power facilities, shipping activities, construction sites, solvent use, etc.

Exposure of such kind of pollutant activities refers both to residential population and daily 'city users', enlarging the wideness of the problem in term of health-related burden of air pollution that is significant for both short-term and long-term exposure.

As Figure 1 shows, the percentage of the urban population in the EU-28 exposed to air pollutant concentrations above certain EU and WHO reference concentrations is still too high, and it is clear that a lot of work has to be done to reduce pollution in urban areas and reach the 'Healthy City'.

Figure 1 - Percentage of the urban population in the EU-28 exposed to air pollutant concentrations above certain EU and WHO reference concentrations, in 2013-2015 period



Source: EEA, 2018; EEA, 2017a

Cities constitute the immediate administrative level to implement specific actions to reduce polluting activities and improve local air quality. Mayors are the public authority responsible for health of citizens: these two elements bring to the conclusion that air quality governance at urban level can be a challenge that must be tackled to gain overall public health benefits.

On the other hand, not all the problems related to a city's air quality can be solved at local level. It is therefore important to manage policies with an integrated approach that brings cities to work together with the higher level of governance (National Government, Regions, Metropolitan Authorities) or to lobby at international level if needed (e.g. to fight transboundary pollution).

3.1 Compliance with EU Legislation

Directive 2008/50/EC *of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe* ('Ambient Air Quality Directive' - AAQD*): Art. 2, art. 23, art. 24, art. 25, Annexes VII, XI, XII, XIV, XV*

Commission Directive (EU) 2015/1480 *of 28 August 2015 amending several annexes to Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council laying down the rules concerning reference methods, data validation and location of sampling points for the assessment of ambient air quality*

Commission Implementing Decision 2011/850/EU *of 12 December 2011 laying down rules for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality (notified under document C (2011) 9068)* ('IPR Decision')

Directive 2004/107/EC *of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air* ('Fourth Daughter Directive')

Directive (EU) 2016/2284 *of 14 December 2016 of the European Parliament and of the Council on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC* ('National Emissions Ceilings Directive' - NECD)

Directive 2003/35/EC *of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC* ('Public Participation Directive' - PPD)

The Air Quality Plan (AQP) is a strategic planning instrument introduced in the Ambient Air Quality Directive 2008/50/EC (AAQD). The drafting of an AQP is compulsory for any

'*zone*' or '*agglomeration*' within which the concentrations of pollutants in ambient air '*exceed any Limit value or Target value*' designed for the protection of human health. These values are specified in Annexes VII, XI of the Ambient Air Quality Directive.
The AAQD legislation requires an AQP to set out appropriate, cost-effective measures to achieve compliance with air quality limit or target values while keeping the period of exceedance '*as short as possible*'.

The mandatory elements that must be included in an AQP can be found in *Section 4.1 - Mandatory Elements.* These include a description of measures, assessment on the impact of measures, as well as the authority responsible for monitoring the measures. An AQP may additionally include measures aimed at protecting sensitive population groups, including children.

In situations where a zone or agglomeration is experiencing exceedances of more than one pollutant, the legislation suggests that a single '*Integrated'* AQP is produced. An integrated plan can help properly account for co-benefits of emissions reduction measures as well as help reduce the burden of drafting and implementing different plans. AQPs may include short-term measures, designed to mitigate the effects of current or predicted exceedances of one or more Alert thresholds (specified in Annex XII and related to NO_2, SO_2 and O_3) or one or more Limit values or Target values (specified in Annexes VII, XI and XIV and related to O_3 and $PM_{2.5}$). In the case of a predicted or current exceedance of an Alert threshold, a Member State '*shall*' draft a **Short-term Action Plan**, indicating the effective measures to be taken to reduce the risk or duration of such an exceedance[4]. In the case of a current or predicted exceedance of a Limit or Target value a Member State '*may*' draft a Short-term Action Plan. The measures in a Short-term Action Plan should aim to address high pollution episodes that last days or weeks and can include the control or suspension of activities contributing to the exceedance. These measures can include suspension of specific industrial processes or motor-vehicle traffic.

Each Member State is responsible for achieving and maintaining air quality target and limit values, and consequently for drafting and implementing AQPs as necessary. A Member State may devolve some or all these responsibilities to regional or local authorities, while all public bodies, including local and regional authorities, are required to work to achieve EU air quality target or limit values and cooperate with overarching authorities in implementing identified mitigation measures.

The AAQD refers to AQPs as covering zones and agglomerations:

- ✓ '*Zones and agglomerations*' are defined by each Member State for the purposes of air quality assessment and management;
- ✓ an '*agglomeration'* corresponds to a special type of zone that exceeds 250,000 inhabitants, or with a given population density per km² which for the Member States '*justifies the need for ambient air quality to be assessed and managed'*[5].

[4] However, Dir. 2008/50/EC in Art. 24 specifies that, where there is a risk that the Alert Threshold for Ozone specified in Section B of Annex XII will be exceeded, Member States shall only draw up such Short-Term Action Plans when in their opinion there is a significant potential, taking into account national geographical, meteorological and economic conditions, to reduce the risk, duration or severity of such an exceedance.
[5] Directive 2008/50/EC: Article 2 (17).

Given these criteria, larger cities are often represented as a single zone or agglomeration responsible for managing air quality, including the drafting of AQPs. In cases where transboundary sources are a significant contributor to exceedances, the Member States concerned shall cooperate in enacting measures to eliminate the exceedances. This can include joint activities including the drafting of a joint or coordinated AQP.

In the preparation of AQPs, local authorities should consider the National Air Pollution Control Plan (NAPCP) compulsorily published by Member States as part of the National Emission Ceiling Directive (NECD) from April 2019. The NAPCP may contain information that should be considered when drafting AQPs or contain actions that require local implementation. On the other hand NAPCPs would include information related to AQPs, such as their effectiveness in local compliance for Limit and Target values. More details on NAPCPs for the NEC Directive and vertical policy integration can be found in *Section. 4.3 - Integration with other Air Quality Plans and Programmes*.

In accordance with the AAQD (art. 26) and the Directive 2003/35/EC (Public Participation Directive - PPD) the process of drafting an AQP must be open to public participation at all stages of development, as described in *Section 6.2 - Participatory approach*.

Once an AQP is produced, it must be communicated to the Commission within two years from the end of the calendar year in which the first exceedance was observed. If an AQP is not delivered to the legislated requirements under the relevant Directives, then infringement proceedings may be brought against a Member State. Follow-up and reporting requirements are covered in more detail in *Section 6.4 - Monitoring, reporting and Reviewing* and in *Section 4.5 - E-Reporting format and requirement*. AQPs are classed as public documents and should be made publicly available, free of charge, by means of any easily accessible media, including the internet.

Box 1 - Standard format of an infringement proceeding text for Article 23 of Directive 2008/50/EC

Infringement Proceedings - *Member State*

Infringements of Article 23 of Directive 2008/50/EC have been taken up by the Court of Justice of the European Union (CJEU).

- ✓ On xx/xx/xxxx the CJEU found the *Member State* government[6] to be in breach of having systematically and continuously exceeded PM_{10} limit values throughout its territory and for having failed to prepare air quality plans, which would keep the duration of the breach as short as possible (Case X-XXX/XX) [7]
- ✓ XXXXX failed to fulfil its obligations under Article 23(1) to keep the duration of the breach "as short as possible" from xx/xx/xxxx until xxxx, by adopting appropriate measures in an air quality plan. Failure to comply with this judgment and, therefore, to improve the existing, inadequate, air quality plans would expose *Member State* to the payment of fines.

[6] https://eur-lex.europa.eu/
[7] http://curia.europa.eu/juris/recherche.jsf?language=en

3.2 Health Protection and other purposes

The main purpose of an AQP is the legal compliance with the achievement and/or the maintenance of EU Air Quality Limit Values or Target values settled by the Directive 2008/50/EC (Annex XI and XIV).

As in the current practice AQPs can also be developed to pursuit the following purposes that if declared could increase the public acceptance of the AQP:

- ✓ **Improvement of the health of residents and city users** due to reduction of air pollution exposure with benefit both for short-term and long-term related effects (increase of life expectancy, reduction for cancer risk, less cardiovascular and respiratory illness such as asthma, less neurological disorders and metabolic disorders such as diabetes, etc.) with special focus on sensitive people (children, young, elders, chronic patients, woman in pregnancy, etc.);

- ✓ **Reduction of the economic impact associated with burden of diseases and healthcare cost** related to health effects of air pollution exposure (chronic and short-term diseases, hospital admissions, loss of work days, …);

- ✓ **Improvement of the quality of life** related to improvement of health condition and to liveability of the city (e.g. less congestion in streets can bring more 'liveable' areas for pedestrian with higher safety levels and less noise, …);

- ✓ **Reduce social inequalities in term of health and quality of life** linked to local air pollution;

- ✓ **Integrate Air Quality into the decision-making process for other municipal sectorial plans and strategies** keeping air quality high on the agenda.

3.3 Related additional benefits

In addition to the objects listed in the previous Sections the adoption of a City Air Quality Plan can bring additional **health, social, environmental and economic benefits** that can summarized as in the followings:

1. Improve **health** of citizens in an indirect way, through measure adopted (e.g. health benefits due to promotion of active commuting[8] and reduction of traffic fluxes through discouraging private transport)
2. Most part of intervention to improve air quality could have positive feedback for **climate change** effects mitigation. In fact, in general the reduction of combustion activities, needed to reduce air pollutants, brings contemporarily the decrease of CO_2 emission, first product of fossil fuel combustion. Attention

[8] Cycling and walking.

must be taken for the opposite: climate change mitigation actions not always bring positive effects on air quality [9]

3. Reduction of vehicle traffic on streets could let to reduction on **noise** and related health issues;
4. Saving money when damage and soiling of buildings and **cultural heritage** is decreased;
5. Less damage and loss of **vegetation** patrimony of the city, due to demonstrated effects of critical level of O_3, NO_x and SO_2;
6. Saving money and economic profits for **agricultural production preservation**, for les damage to crops (see previous point);
7. Less pollution in **water** due to less leaching into aquifers and basins;
8. More **biodiversity** in the urban environment**;**
9. Improve the **public image /common perception** of the city;
10. Increase the **economic attractiveness and the competition capability** of the city, bringing more international investors, companies, employers and tourists.
11. **Increase the competition capability** of the city in application process for EU funding opportunity.

The adoption of an Air Quality Plan through the implementation of its measures contribute to reach many of the 17 Sustainable Development Goals settled by United Nations for the 2030 Agenda[10] (Figure 2 and Figure 3)

Figure 2 - United Nations Sustainable Development Goals for the 2030 Agenda

Source: https://www.un.org/sustainabledevelopment/sustainable-development-goals/

[9] See also *Section 5.5.3 - Climate Change Impact*.

[10] United Nations, 2015 - '*Transforming our world: the 2030 Agenda for Sustainable Development*', Resolution 70/1 adopted by the General Assembly on 25 September 2015, 21 October 2015

Figure 3 - Air Pollution in relation to the UN Sustainable Development Goals

Source: In EEA, 2017, adapted from UNICEF 2016

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Commission Directive (EU) 2015/1480 of 28 August 2015 amending several annexes to Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council laying down the rules concerning reference methods, data validation and location of sampling points for the assessment of ambient air quality

Commission Implementing Decision 2011/850/EU of 12 December 2011 laying down rules for Directives 2004/107/EC and 2008/50/EC of the European Parliament and of the Council as regards the reciprocal exchange of information and reporting on ambient air quality (notified under document C (2011) 9068) ('IPR Decision')

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora ('Habitats Directive')

Directive (EU) 2016/2284 of 14 December 2016 of the European Parliament and of the Council on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC ('National Emissions Ceilings Directive' - NECD)

Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment ('Strategic Environmental Assessment' - SEA Directive)

Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC ('Public Participation Directive' - PPD)

Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air ('Fourth Daughter Directive')

Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community ('INSPIRE Directive')

Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe ('Ambient Air Quality Directive' - AAQD)

Directive 2011/92/EU of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment ('Environmental Impact Assessment' - EIA Directive)

Directive 2014/52/EU of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment ('EIA Directive - Amended')

APPENDIXES

I List of mandatory elements of an Air Quality Plan

This Appendix shows the list of information to be included in the local, regional or national air quality plans for improvement in ambient air quality, as included in Annex XV - Part A of Directive 2008/50/EC.

ANNEX XV

Information to be included in the local, regional or national air quality plans for improvement in ambient air quality

A. **Information to be provided under article 23 (air quality plans)**

1. *Localisation of excess pollution*

   (a) region;

   (b) city (map);

   (c) measuring station (map, geographical coordinates).

2. *General information*

   (a) type of zone (city, industrial or rural area);

   (b) estimate of the polluted area (km^2) and of the population exposed to the pollution;

   (c) useful climatic data;

   (d) relevant data on topography;

   (e) sufficient information on the type of targets requiring protection in the zone.

3. *Responsible authorities*

   Names and addresses of persons responsible for the development and implementation of improvement plans.

4. *Nature and assessment of pollution*

   (a) concentrations observed over previous years (before the implementation of the improvement measures);

   (b) concentrations measured since the beginning of the project;

(c) techniques used for the assessment.

5. *Origin of pollution*

(a) list of the main emission sources responsible for pollution (map);

(b) total quantity of emissions from these sources (tonnes/year);

(c) information on pollution imported from other regions.

6. *Analysis of the situation*

(a) details of those factors responsible for the exceedance (e.g. transport, including cross-border transport, formation of secondary pollutants in the atmosphere);

(b) details of possible measures for the improvement of air quality.

7. *Details of those measures or projects for improvement which existed prior to 11 June 2008, i.e:*

(a) local, regional, national, international measures;

(b) observed effects of these measures.

8. *Details of those measures or projects adopted with a view to reducing pollution following the entry into force of this Directive:*

(a) listing and description of all the measures set out in the project;

(b) timetable for implementation;

(c) estimate of the improvement of air quality planned and of the expected time required to attain these objectives.

9. *Details of the measures or projects planned or being researched for the long term.*

10. *List of the publications, documents, work, etc., used to supplement information required under this Annex.*

II List of existing guidelines for Air Quality Plans

It is not easy to find guidelines on how to draft and implement Air Quality Plans at local level that could be used by cities of different EU Member states, also due to the different implementation of Dir. 2008/50/EC in the various EU countries. This is the motivation for drafting this Code, which has been produced to help cities and local authorities fulfil EU legislation applicable to Air quality planning, and thus protect the health of citizens and of the environment.

The UK, for instance, in the implementation of Dir. 2008/50/EC has developed Technical Guidelines that are different for England, Scotland, Wales and for the London area. In the present Code the most recent Technical Guidance for Northern Ireland (DEFRA, 2018) has been considered, seeming to be nearest to legislation for Cities AQPs of other EU Countries. Well before the adoption of the Dir. 2008/50/EC the UK National Society for Clean Air and Environmental Protection drafted an Interim Guidance for Local Authorities AQPs (NSCA, 2000), but indication need to be adapted to the present legislative context.

Two other interesting Technical Guidance documents are respectively, the one edited by the German Environment Agency and addressed to the Bulgarian Government (Umweltbundesamt, 2015), and the one commissioned by the Italian Ministry to the Italian Environmental Agencies System (SNPA, 2016) for Regions - who are in charge for AQPs in Italy - both focused on the content of the AQP and on available instruments for assessment and air quality modelling, rather than on the process to follow for adopting the Directive. Others Guidance documents found in research literature are focused on specific topics (air quality modelling tools, air quality measures, etc.) and are cited in the Code in the related section.

EXISTING GUIDELINES FOR DRAFTING AQPs:

- DEFRA, 2018: Local Air Quality Management Technical Guidance (TG16), Part IV of the Environment Act 1995, Environment (Northern Ireland) Order 2002 Part III, February 2018 https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs
- NSCA - National Society for Clean Air and Environmental Protection, 2000: Air Quality Plans: Interim Guidance for Local Authorities, Air Quality Plans Working Group of NSCA's Air Quality Committee, 2000 https://laqm.defra.gov.uk/assets/aqactionplansinterim.pdf
- SNPA - Sistema Nazionale per la Protezione dell'Ambiente, Gruppo di Lavoro Interagenziale 30, 2016 - Linee Guida per la redazione dei Piani di Qualità dell'Aria di cui all'art. 9 del D.Lgs. 155/2010, 29 Novembre 2016

  http://www.isprambiente.gov.it/files/snpa/consiglio-federale/Delibera90cfPropostaLLGGredazionepianidiqualitdellariaconallegati.pdf

II - List of existing guidelines for Air Quality Plans

- UBA, 2016 - Guideline on Air Quality Plans, August 2016, ISSN 2363-832X
  https://www.umweltbundesamt.de/en/publications
- DEFRA, 2018 - Air Quality Action Planning and Good Practice
  http://laqm.defra.gov.uk/action-planning/good-practice.html

Some EXISTING GUIDELINES on Health Impact/related Citizens Awareness/AQ Measures

- DEFRA and Public Health England, 2017: Air Quality: A Briefing for Directors of Public Health, March 2017
  https://www.local.gov.uk/sites/default/files/documents/6.3091_DEFRA_AirQualityGuide_9web_0.pdf
- GLA - Greater London Authority, 2012: Air Quality in City of London: A Guide for Public Health Professionals, November 2012
  https://www.london.gov.uk/sites/default/files/air_quality_for_public_health_professionals_-_city_of_london.pdf
- ENVII Committee, 2016: Implementation of Ambient Air Quality
  http://www.europarl.europa.eu/RegData/etudes/STUD/2016/578986/IPOL_STU(2016)578986_EN.pdf

Some EXISTING GUIDELINES on AQ Measures:

- UBA, 2015: Inventory and effectiveness of measures to improve air quality, TEXTE 05/2015, ISSN 1862-4804
  http://www.umweltbundesamt.de/publikationen/inventory-effectiveness-of-measures-to-improve-air
- X. Querol and F. Amato (eds.) 2017: GUIDEBOOK: Measures to Improve Urban Air Quality, AIRUSE Project, ISBN: 978-84-697-5499-3, September 2017
  http://www.cleanaircities.net/
- EEA - European Environment Agency, 2013: Air Implementation Pilot. Lessons learnt from the implementation of air quality Legislation at urban level, EEA Report No 7/2013, ISSN 1725-9177
  https://www.eea.europa.eu/publications/air-implementation-pilot-2013/file
- ETC/ACM - European Topic Centre on Air Pollution and Climate Change Mitigation, 2013: Air Implementation Pilot: Workshop on measures, Copenhagen, February 27th, 2013 - ETC/ACM Technical paper 2013/5, June 2013

TRANSPORT

- *Low Emission Zones:* http://urbanaccessregulations.eu/

II - List of existing guidelines for Air Quality Plans

LAND USE PLANNING

- EPUK & IAQM, 2017: Land-Use Planning & Development Control: Planning For Air Quality. Guidance from Environmental Protection UK and the Institute of Air Quality Management for the consideration of air quality within the land-use planning and development control processes, January, 2017
http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf

CONSTRUCTION SECTOR

- https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/control-dust-and

Some EXISTING GUIDELINES on AQ Modelling:

- Belis C., et al, 2014: European Guide on with Receptor Models Air Pollution Source Apportionment, European Commission Joint Research Centre Institute for Environment and Sustainability, Report EUR 26080 EN, ISBN 978-92-79-32513-7, doi: 10.2788/9307
https://ec.europa.eu/jrc/en/publication/reference-reports/european-guide-air-pollution-source-apportionment-receptor-models
- G. Guariso and M. Volta (eds.) 2017, Air Quality Integrated Assessment, PoliMI SpringerBriefs, DOI 10.1007/978-3-319-33349-6_1, November 2017
https://www.springer.com/gp/book/9783319333489
- JRC - Joint Research Centre, 2014: European Guide on with Receptor Models Air Pollution Source Apportionment, European Commission Joint Research Centre Institute for Environment and Sustainability, Report EUR 26080 EN, ISBN 978-92-79-32513-7
https://ec.europa.eu/jrc/en/publication/reference-reports/european-guide-air-pollution-source-apportionment-receptor-models
- Miranda A. et al, 2015: Current air quality plans in Europe designed to support air quality management policies, Atmospheric Pollution Research 6 (2015) 434 443
https://www.sciencedirect.com/science/article/pii/S1309104215302129
- VITO, 2015: WP4 Guidance on integrated air quality and health assessment systems. D4.4 Final Version of the Guidance document (version 1.1), FP7 Appraisal project, 8 June 2015.
www.appraisal-fp7.eu
- P. Thunis, B. Degraeuwe, E. Pisoni, F. Ferrari and A. Clappier, 2016: On the design and assessment of regional air quality plans: The SHERPA approach, Journal of Environmental Management 183
https://core.ac.uk/download/pdf/82813188.pdf

III List of existing guidelines for Short-term Action Plans

Short-term action plans are defined by Art. 24 of Directive 2008/50/EC.

An existing collection of Best Practices for implementing short-term action plans, that can be seen as a sort of Guidance, is given in the following report:

- AEA and Umweltbundesamt, 2012: Best Practices for short-term action plans, Report for the European Commission, January 2012 http://ec.europa.eu/environment/air/quality/legislation/pdf/SC5_Task%201_report.pdf

EXAMPLES of short-term action plans

- STRASBOURG (France)

  https://www.bisonfute.gouv.fr/IMG/pdf/Strasbourg_Dossier_de_presse_du_3_juillet_17.pdf

- MANNHEIM (Germany)

  https://rp.badenwuerttemberg.de/rpk/Abt5/Ref541/Luftreinhalteplan/rpk54.1_lrp_fortschr_jan12.pdf

- PO VALLEY BASIN Agreement (Italy)

  http://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioRedazionale/servizi-e-informazioni/cittadini/Tutela-ambientale/Qualita-dell-aria/misure-di-limitazione-per-qualita-aria/misure-di-limitazione-per-qualita-aria

IV Cities Air Quality Plans: examples of best practices

BERLIN

Air Quality Plan for Berlin 2011-2017
https://www.berlin.de/senuvk/umwelt/luftqualitaet/de/luftreinhalteplan/download/lrp_150310_en.pdf
(English full version)

Themes and pollutants: traffic (NO_2, PM_{10}, diesel soot), construction sites (PM_{10}, diesel soot).

Objective: for compliance with EU Limit Values for NO_2 and PM_{10} in long term for the whole city territory; to protect citizens health reducing the number, duration and intensity of the exceedances.

For AQP structure:
- ✓ A full version in English

For consistent implementation of Dir. 2008/50/EC

For attention for social equity in air pollution exposure and related health effects (Environmental justice as a model scheme):
- ✓ Socio-spatial distribution maps of air pollutants in Berlin considered for Urban Planning and AQ measures

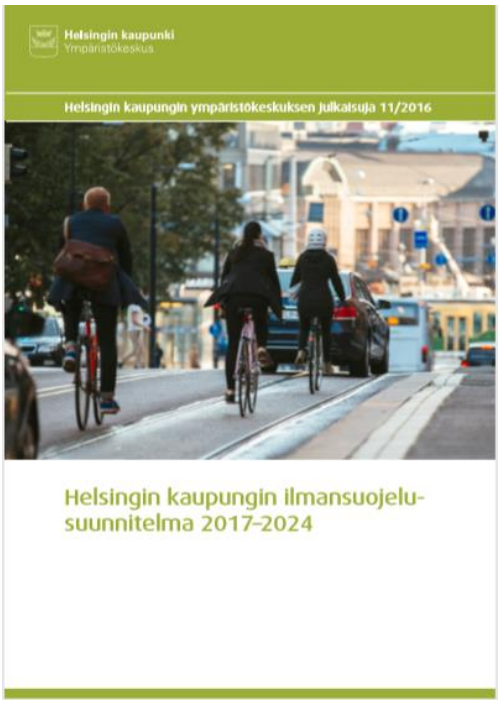
For Citizen Awareness efforts:
- ✓ An **AQP Brochure** to explain easily the Plan to the citizens: https://www.berlin.de/senuvk/umwelt/luftqualitaet/de/luftreinhalteplan/download/lrp_broschuere_en.pdf
- ✓ **maps of congestion, emissions and air pollution** on the main road network created for the Air Quality Plan are made available in Berlin's Environmental Atlas: http://www.stadtentwicklung.berlin.de/umwelt/umweltatlas/dinh_03.htm
- ✓ **Information on air pollution** available on the website of the Senate Department for Urban Development and Environment: http://www.stadtentwicklung.berlin.de/umwelt/luftqualitaet/

HELSINKI

Air Quality Plan of the City of Helsinki 2017-2024
https://www.hel.fi/static/ymk/julkaisut/julkaisu-11-16.pdf
(English summary)

Themes and pollutants: traffic (NO_2, $PM_{2.5}$), street dust (PM_{10}), wood burning ($PM_{2.5}$, B(a)P)

Objective: to get below the annual limit value for NO_2, to generally improve the air quality in Helsinki



For AQP structure:

- ✓ a short summary in English for each report;
- ✓ a separate detailed report with Analysis of Air Quality situation a part from the AQP:

Background Report of the AQP of the City of Helsinki 2017-2024 *(English summary)*

For Participatory process:

- ✓ Public consultation and Stakeholder involvement description in a dedicated publication:

Interaction Report of the AQP of the City of Helsinki 2017-2024 *(English summary)*
https://www.hel.fi/static/ymk/ilmansuojelu/vuorovaikutusraportti.pdf
(See also *Section 6.2* of this Code)

For Citizen Awareness efforts:

- ✓ An air quality citizens awareness brochure
  Clean Air for Helsinki - Brochure *(English version)*
  www.hel.fi/air-protection
- ✓ A website with real time information on air quality situation:
  Air quality in the Helsinki Metropolitan Area – Website
  www.hsy.fi/airquality

Legislation on Air pollution control in Finland
http://www.ym.fi/en-US/The_environment/Legislation_and_instructions/Climate_protection_legislation

STRASBOURG

Plan de Protection de l'Atmosphère de l'agglomeration strasbourgeoise, 2015-2020
http://www.bas-rhin.gouv.fr/Politiques-publiques/Environnement-prevention-des-risques-naturels-et-technologiques/Air/Plan-de-Protection-de-l-Atmosphere-de-l-agglomeration-strasbourgeoise-PPA

Themes and pollutants: PM_{10}, NO_2

Objective: Compliance with EU Limit Values for NO_2 and PM_{10}; to reduce citizens' exposure and AQ related health impact also to local exceedances

For AQP structure:

- ✓ rigorous structure and detailed report
- ✓ Impact assessment of measures finalized to consider 'citizens exposure' to several pollutants

For consistent implementation of Dir. 2008/50/EC

For APHEKOM approach in health assessment

For Citizen Awareness efforts:
http://www.laircmonaffaire.net/advices_notes.php?PHPSESSID=28d51b5be9fae3a2c96dee63ff2de88e

ZAGREB

Air Quality Plan of the City of Zagreb (2015-2023)

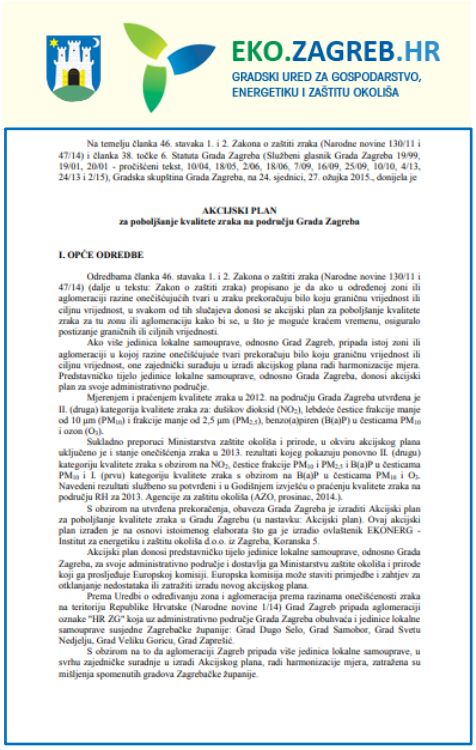
http://www.eko.zagreb.hr/default.aspx?id=247

Themes and pollutants: traffic (NO_2, PM_{10}, $PM_{2.5}$), households plants (PM_{10}, benzo(a)pirene), expansion of measuring stations network for continuous AQ monitoring

Objective: Air quality improvement in the territory of the City of Zagreb and compliance with EU Limit Values. A significant effect on reduction of levels of nitrogen oxides (NO_x), PM_{10} and $PM_{2.5}$ and benzo(a)pyrene - B(a)P and Ozone (O_3) is expected.

For AQP structure:

- ✓ A full version in Croatian (SGGZ 5/15): Action Plan for Improving Air Quality in the City of Zagreb


EKO.ZAGREB.HR
GRADSKI URED ZA GOSPODARSTVO, ENERGETIKU I ZAŠTITU OKOLIŠA

Na temelju članka 46. stavaka 1. i 2. Zakona o zaštiti zraka (Narodne novine 130/11 i 47/14) i članka 38. točke 6. Statuta Grada Zagreba (Službeni glasnik Grada Zagreba 19/99, 19/01, 20/01 - pročišćeni tekst, 10/04, 18/05, 2/06, 18/06, 7/09, 16/09, 25/09, 10/10, 4/13, 24/13 i 2/15), Gradska skupština Grada Zagreba, na 24. sjednici, 27. ožujka 2015., donijela je

AKCIJSKI PLAN
za poboljšanje kvalitete zraka na području Grada Zagreba

I. OPĆE ODREDBE

Odredbama članka 46. stavaka 1. i 2. Zakona o zaštiti zraka (Narodne novine 130/11 i 47/14) (dalje u tekstu: Zakon o zaštiti zraka) propisano je da ako u određenoj zoni ili aglomeraciji razine onečišćujućih tvari u zraku prekoračuju bilo koju graničnu vrijednost ili ciljnu vrijednost, u svakom od tih slučajeva donosi se akcijski plan za poboljšanje kvalitete zraka za tu zonu ili aglomeraciju kako bi se, u što je moguće kraćem vremenu, osiguralo postizanje graničnih ili ciljnih vrijednosti.

Ako više jedinica lokalne samouprave, odnosno Grad Zagreb, pripada istoj zoni ili aglomeraciji u kojoj razine onečišćujuće tvari prekoračuju bilo koju graničnu vrijednost ili ciljnu vrijednost, one zajednički surađuju u izradi akcijskog plana radi harmonizacije mjera. Predstavničko tijelo jedinice lokalne samouprave, odnosno Grada Zagreba, donosi akcijski plan za svoje administrativno područje.

Mjerenjem i praćenjem kvalitete zraka u 2012. na području Grada Zagreba utvrđena je II. (druga) kategorija kvalitete zraka za: dušikov dioksid (NO_2), lebdeće čestice frakcije manje od 10 µm (PM_{10}) i frakcije manje od 2,5 µm ($PM_{2,5}$), benzo(a)piren (B(a)P) u česticama PM_{10} i ozon (O_3).

Sukladno preporuci Ministarstva zaštite okoliša i prirode, u okviru akcijskog plana uključeno je i stanje onečišćenja zraka u 2013. rezultati kojeg pokazuju ponovno II. (drugu) kategoriju kvalitete zraka s obzirom na NO_2, čestice frakcije PM_{10} i $PM_{2,5}$ i B(a)P u česticama PM_{10} i I. (prvu) kategoriju kvalitete zraka s obzirom na B(a)P u česticama PM_{10} i O_3. Navedeni rezultati službeno su potvrđeni i u Godišnjem izvješću o praćenju kvalitete zraka na području RH za 2013. Agencije za zaštitu okoliša (AZO, prosinac, 2014.).

S obzirom na utvrđena prekoračenja, obaveza Grada Zagreba je izraditi Akcijski plan za poboljšanje kvalitete zraka u Gradu Zagrebu (u nastavku: Akcijski plan). Ovaj akcijski plan izrađen je na osnovi istoimenog elaborata što ga je izradio ovlaštenik EKONERG - Institut za energetiku i zaštitu okoliša d.o.o. iz Zagreba, Koranska 5.

Akcijski plan donosi predstavničko tijelo jedinice lokalne samouprave, odnosno Grada Zagreba, za svoje administrativno područje i dostavlja ga Ministarstvu zaštite okoliša i prirode koji ga prosljeđuje Europskoj komisiji. Europska komisija može staviti primjedbe i zahtjev za otklanjanje nedostataka ili zatražiti izradu novog akcijskog plana.

Prema Uredbi o određivanju zona i aglomeracija prema razinama onečišćenosti zraka na teritoriju Republike Hrvatske (Narodne novine 1/14) Grad Zagreb pripada aglomeraciji oznake "HR ZG" koja uz administrativno područje Grada Zagreba obuhvaća i jedinice lokalne samouprave susjedne Zagrebačke županije: Grad Dugo Selo, Grad Samobor, Grad Sveta Nedjelja, Grad Veliku Goricu, Grad Zaprešić.

S obzirom na to da aglomeraciji Zagreb pripada više jedinica lokalne samouprave, u svrhu zajedničke suradnje u izradi Akcijskog plana, radi harmonizacije mjera, zatražena su mišljenja spomenutih gradova Zagrebačke županije.

For consistent implementation of Dir. 2008/50/EC:

- ✓ The Air Quality Plan of the City of Zagreb format and content are defined in accordance with national legislation in which the provisions of 2008/50/EC Directive have been transposed
- ✓ For regular monitoring reporting:
  - 2015 and 2016 Report on the Implementation of the Action Plan for the Improvement of Air Quality in the City of Zagreb
- ✓ For integration with other Plans and Programmes at local and national scale:
  - *Programme of the City of Zagreb for the protection of air, ozone layer, climate change adaptation and mitigation;*
  - *Sustainable Energy Action Plan for the development of the City of Zagreb (SEAP*);
  - *Plan for the protection of air, ozone layer and climate change mitigation in the Republic of Croatia for the 2013- 2017 period* (OG 139/13).
- ✓ For tacking B(a)P emissions and reduction of ground-level ozone pollution (O_3). For reduction of O_3 precursors (e.g. NO_x, VOC) local measures are not sufficient, and action by the international community within the framework of LRTAP and the related Gothenburg protocol is required.

Legislation on Air pollution control in Republic of Croatia

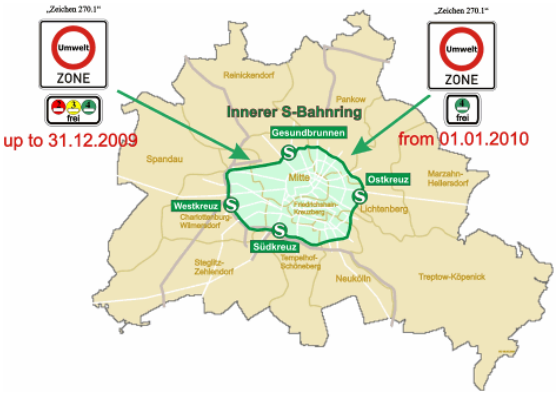
http://www.mzoip.hr/en/environment/regulations-and-international-treaties-ratified-or-signed-by-the-republic-of-croatia.html

V Examples of Air Quality measures

TRANSPORT MEASURES

Low Emission Zone - LEZ for trucks and cars (Berlin)

This emission-based limited traffic zone includes the inner city of Berlin within the suburban rail ring. It covers about 85 km^2 of a very densely built-up area with more than 1 million residents. The traffic restriction applies permanently and independently from the current pollution level of the air. It is based on German vehicle emissions level classification for which three coloured stickers have been settled to label lowest emission vehicles (highly emitting vehicles have no sticker) in order to help roadside controls in LEZs implementation.



Emission standard (Euro norm)	Polluant Class	Initial vehicle rigistration passenger cars	Sticker
Diesel engine			
Euro 1 or older	1	before 01.01.1997	none
Euro 2 / Euro 1 + filter	2	from 01.01.1997 to 31.12.2000	
Euro 3 / Euro 2 + filter	3	from 01.01.2001 to 31.12.2005	
Euro 4 / Euro 3 + filter	4	from 01.01.2006	
Petrol engine			
Before Euro 1	1	before 01.01.1993	none
Euro 1 and better	4	from 01.01.1993	

Source: *https://www.berlin.de/senuvk/umwelt/luftqualitaet/de*

The following requirements are effective for the whole area of the LEZ, settled in 2005. *Stage I* from 1.1.2008: Vehicles (trucks and cars) must at least be up to the standards of the emission group 2. Vehicles of emission groups 2, 3 and 4, i.e. with red, yellow or green stickers, are allowed to drive. *Stage II* from 1.1.2010: Only vehicles of emission group 4, i.e. with a 'green sticker', are allowed to drive.

LEZ results in Berlin were assessed in term of vehicular emissions avoided as in the followings. *Stage I*: - 24% of diesel soot, - 14% NOx; *Stage II*: - 58% of diesel soot, compared to trend without LEZ.

In the framework of the AQ Plan of Berlin 2011-2017, in consideration of the persistent high fraction of Euro 3 diesel vehicles without a particulate filter due to individual exemptions it was decided to limit those only to few categories. The effects of this tightening of the LEZ was assessed by modelling for main roads a reduction of vehicular emissions: - 3.6 t/a of diesel soot (or -3.6% black carbon emissions); - 55 t/a (-1.1%) of NOx emissions. However, benefits in term of emissions reduction and air quality are expected also in minor roads and beyond the boundary of the LEZ.

V - Examples of Air Quality measures

In term of air quality the effect of the LEZ was assessed in the framework of the AQ Plan of Berlin together with the others 'vehicles technology' measures: the number of residents on main roads affected by EU limit value exceedances could be reduced approximatively by 25% for PM_{10} and by 46% for NO_2 thanks also the LEZ *Stage II* implementation. Notably this kind of measure allows to reduce the exposure to traffic proximity primary pollutant (-5% of NO_2 and -50% of diesel soot/Black Carbon concentration measured) and less to secondary pollutants such as PM_{10}, more affected by larger scale pollution phenomena.

Berlin experience showed that to reduce the economic and social consequence of this measure it is useful introduce different stages with long transitional periods and economic incentives for scrappaging older vehicles to help vehicle owner. Lesson learnt is also that the city management of granting individual exemptions is a human resources cost to be considered in planning.

For more details:

- https://www.berlin.de/senuvk/umwelt/luftqualitaet/de/luftreinhalteplan/download/paper_lez_berlin_en.pdf
- https://www.berlin.de/senuvk/umwelt/luftqualitaet/de/luftreinhalteplan/download/lrp_150310_en.pdf
- Brukmann and Lutz, 2011: Do Low Emission Zones reduce the burden of particulates?, XV ETH Conference on Combustion Generated Nanoparticles, Zurich, June 26th-29th 2011

Additional information about LEZ in German Cities could be found in the following document:

- UBA, 2015: Inventory and effectiveness of measures to improve air quality, TEXTE 05/2015, ISSN 1862-4804 http://www.umweltbundesamt.de/publikationen/inventory-effectiveness-of-measures-to-improve-air

Congestion Charge (London) - Road pricing to reduce congestion

The congestion charging scheme in London was introduced in February 2003. This road charging scheme charges a daily rate for vehicles to enter and travel in the 21 square kilometres central zone between 7:00 and 18:30 during weekdays. The scheme is supported by an infrastructure of camera sites, using automatic number plate recognition (ANPR) technology cameras placed on the entry points into the congestion zone and in locations within the zone.

Source: https://tfl.gov.uk/modes/driving/congestion-charge/congestion-charge-zone/road-signs

Vehicles driving in the charging zone during the charging period are charged a flat rate of £10 per day. Vehicles exempt from the scheme include licensed taxis and minicabs, buses, motorcycles, vehicles for disabled persons including "blue badge" holders and vehicles with 9 seats or more. Residents in the charging zone - of which approximately 40,000 households own a car - are entitled to a 90% discount of the charge.

Within the charging zone road traffic flows have decreased by 15% and mean daily traffic speed has increased by 20 per cent (from 19 km/h to 23 km/h). Congestion in the charging zone has been reduced by 30%. Car trips into the central charging zone has reduced by 65,000 - 70,000 per day. Changes in vehicle km travelled in the charging zone shows an increase in buses (+20%), an increase in taxis (+13%) and a decrease in cars (-29%) and heavy goods vehicles (-11%).

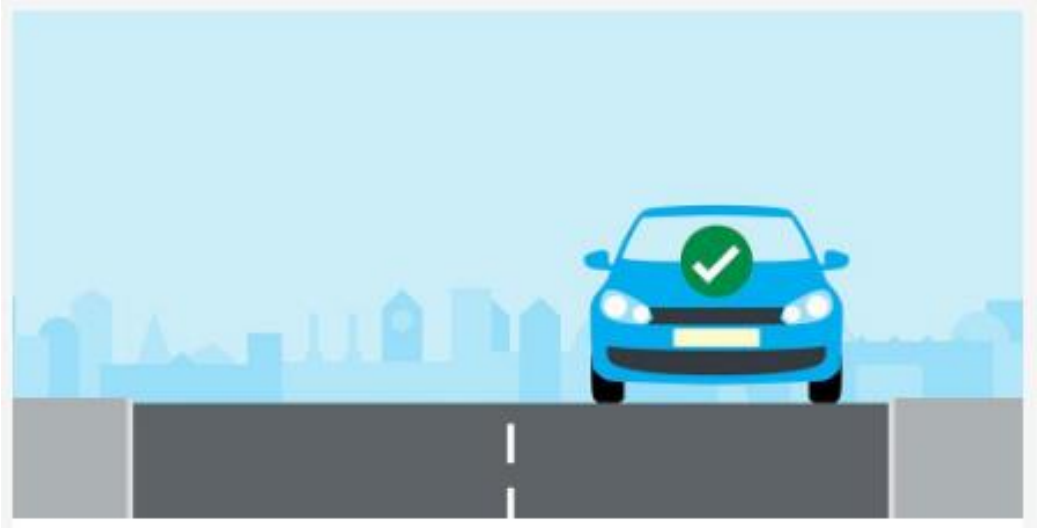
Bus usage has increased inside and outside the congestion charging zone. In terms of air quality, congestion charging in London has been found to reduce emissions of nitrogen oxides and particulates by 12% and carbon dioxide by 19% within the charging zone.

For more details:

- http://www.tfl.gov.uk/roadusers/congestioncharging/default.aspxhttp://www.tfl.gov.uk/roadusers/congestioncharging/default.aspx

T-Charge (London)

The Mayor of London has launched a £10 toxicity 'T-Charge' aimed at older, more polluting vehicles on London roads. The T-Charge, which went into force on 23 October 2017, applies mainly to diesel and petrol vehicles registered before 2006, but also includes later models. The T-Charge aims to help improve air quality in London, in particular with regard to nitrogen dioxide (NO_2) and particulate matter (PM), both of which have an adverse effect on human health.



Source: https://www.london.gov.uk/what-we-do/transport/mayors-new-ps10-toxicity-charge-londons-most-polluting-cars

The T-Charge (officially known as the 'Emissions Surcharge') aims to discourage the use of older, more polluting vehicles driving into and within central London. The T-Charge applies in the same area as the existing Congestion Charging Zone.

It is the first step towards the introduction of the Ultra Low Emission Zone (ULEZ), a 24-hour charging zone in central London for older vehicles.

For more details:

- https://www.london.gov.uk/what-we-do/transport/mayors-new-ps10-toxicity-charge-londons-most-polluting-cars

Environmental Bonus for Buses Cutting Emissions (Helsinki)

Source: https://www.smartcitiesworld.net/news/news/app-teaches-helsinki-citizens-about-pollution-1793

Helsinki's goal is emission-free public transport by 2025.

Environmental bonuses are paid on the basis of a tendering process to bus operators for measures to cut emissions. The tendering process takes account of both carbon emissions and harmful local emissions such as small particles and nitrogen oxides. The emphasis is on reducing nitrogen oxides and carbon emissions.

Bonuses are paid for new measures that exceed the commitments set out in the currently valid contracts. Helsinki assesses the measures offered and pays bonuses according to the emission reductions achieved. The costs of emissions avoided are assessed according to the Directive 2009/33/EC. Measures are ranked according to their cost-effectiveness and they are procured with the allotted sum of money (1 million euros in 2016). The bonus has been applied to finance emission reductions by using biofuels and by retrofitting EEV buses with high NO_2 emissions (15 000 euros per retrofitted bus).

After the retrofit the emissions of these EEV buses in real world driving were measured and found to be on the Euro VI level. There is an environmental zone in the city centre applying to local Helsinki buses and Helsinki waste collection vehicles. When new lines and areas are opened for competitive bidding, the buses and waste collection vehicles operating within the environmental zone must comply with the Euro VI emission norms. The environmental zone covers the Southern part of the Hakamäentie road.

For more details:

- https://www.hsl.fi/en/news/2016/hsl-invests-one-million-euros-reducing-emissions-9094

Cleaning public transport (Berlin)

Source: https://www.berlin.de/

The public transport company of Berlin (BVG) operates a fleet of currently about 1,320 buses. These buses are equipped since the late 1990s gradually with particle filters. Prior to entry into force of the Clean Air Plan 2005, about 72 % of the buses were equipped with particulate filters. With these filters, the particulate emission of buses was reduced by about 70-90%. In addition to the particle emission the buses also contribute significantly to local pollution by nitrogen oxides. In 2005 the following goals to reduce emissions of the buses were set out in the Clean Air Plan: full retrofitting with particulate filters by 2010 and conversion to Euro5/EEV-Standard of 600 buses by 2010.

The objectives of the Clean Air Plan were implemented in the local transport plan (NVP) of Berlin from 2006 to 2009 and incorporated in the draft NVP 2010-2014. The BVG has procured between 2005 and 2010 a total of 923 buses, 161 of them with the exhaust emission standard Euro 3, 409 with Euro 4 and 353 with EEV/Euro 5.

All newly purchased diesel buses are equipped with a closed particulate filter.

For more details:

- http://www.stadtentwicklung.berlin.de/umwelt/luftqualitaet/de/luftreinhalteplan/download/Luftreinhalteplan_Berlin_2011.pdf

Buses retrofitting for NO_x (Copenhagen)

City buses contribute to a large proportion of air pollution in cities because normal filters and catalysts only function well with high motor temperatures. The low speed and many stops counteract the traditional pollution reduction systems in cities.

In order to improve the air quality for the citizens, 299 diesel busses in Copenhagen has been fitted with an innovating NOx reduction technology that neutralizes NO_x emissions even at low motor temperatures, reducing emissions by 90-95%.

Source: https://ing.dk/artikel/299-busser-i-koebenhavn-har-faaet-nox-og-partikelfiltre-182756

The upgraded fleet is a mix of both older and newer vehicles, and after the upgrade they are robustly meeting Euro VI emissions legislation in all real driving conditions, including congested city driving and at sub-zero temperatures.

City of Copenhagen has reduced NO_x emissions by up to 95% on its public buses since implementing new clean air filters in early 2016. The total amount of NO_x emissions in Copenhagen have been reduced by 4% as a result of the new bus filters.

For more details:

- http://www.cleanaireurope.org/fileadmin/user_upload/redaktion/downloads/The_Danish_Ecocouncil/Clean_air_CPH_2014_UK.pdf
- The Danish Council, 2014: CLEAN AIR COPENHAGEN: Air quality challenges and solutions, ISBN: 978-87-92044-65-5, January 2014

V - Examples of Air Quality measures

Cycling networks, Cycling Highways (Copenhagen/Groningen/London)

A Cycle Super Highway is a cycle highway, where the commuters' needs have been given the highest priority. The project seeks to create routes that offer fast, comfortable and safe service. A Cycle Super Highway is defined both by its location, as well as its physical qualities. The highway should connect areas with many workers and students to their homes, and to public transportation possibilities as well. The highways should be fast, meaning as direct as possible and with as few stops as possible. A good example of how this is achieved is by the use of green waves. Traffic lights are normally coordinated in favour of cars, but the aim for the Cycle Super Highways, is for traffic lights to be adjusted for cyclists along the many main traffic arteries. At a speed of 20 km/h, cyclists will be able to surf a wave of green lights through the city during rush hour.

Source: http://denmark.dk/en/green-living/strategies-and-policies

Furthermore, the highways have to be comfortable and safe. Comfort is secured by the use of high quality asphalt and maintenance. Security is achieved for instance, by clear marking and distance to cars including advanced stop lines, to make cyclists more visible to motorists, as well as sufficient lightning. In order to reduce risks of accidents, many intersections will be restructured in order to give cyclists priority. For example, in intersections with separate traffic lights for bikes, the cyclists may get a green light four seconds before cars would. In some cases, the head start would be as much as 12 seconds. These initiatives make the cyclists far more visible in traffic. In addition, you get to where you're going quicker. Clear signage will make it easy for the commuter to find his way. To minimize clutter, design will be based on traditional signage and we will use existing posts where possible. Maintenance is essential for the commuters, especially during the winter. The Cycle Super Highways will be given the highest priority in each municipality, concerning issues of road repair and snow removal.
For more details:

- http://www.cykelsuperstier.dk/sites/default/files/Cycle%20Super%20Highways.pdf
- http://www.cykelsuperstier.dk/concept
- http://www.aviewfromthecyclepath.com/2009/02/how-groningen-grew-to-be-worlds-number.html
- http://www.tfl.gov.uk/roadusers/cycling/11901.aspx

Parking discount for Low-emission Vehicles (Helsinki)

Source: https://www.ksml.fi/kotimaa/Tuleeko-sakko-jos-parkkimittari-on-rikki-%E2%80%93-pys%C3%A4k%C3%B6inninvalvoja-kertoo/192892

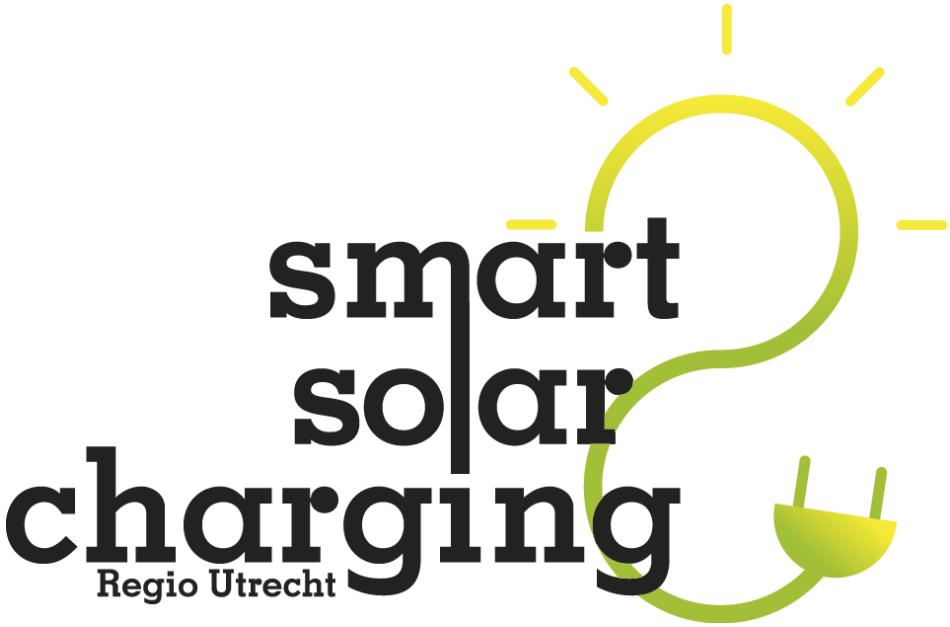
Low-emission vehicles get a 50 % reduction on parking fees in Helsinki. The discount applies to all paid car parks in general traffic areas controlled by the city. It also applies to paid resident and corporate parking permits. In order to get the discount, the parking charge must be paid either by mobile phone or a specific payment device (Comet).

The emission criteria are reviewed regularly. The criteria cover both carbon dioxide emissions and regulated emissions which have an impact on air quality. These emissions are regulated with Euro norms. From the beginning of 2017 the criteria are Euro 5 for all types of cars and specific CO_2 limits depending on the fuel: 50 g/km for diesel cars (only plug-in hybrids fulfil this criteria), 100 g/km for petrol cars and 150 g/km for natural gas (bifuel) and ethanol (flexifuel) cars. All fully electric cars and electrically operated class L vehicles which have been registered for road use are categorized as low-emission vehicles.

For more details:

- http://www.hel.fi/www/helsinki/en/maps-andtransport/parking/vahapaastoisten_alennus

Smart Solar Charging for electric cars (Utrecht)



Source: https://smartsolarcharging.eu/uniek-energiesysteem-in-utrechtse-wijk-lombok-breidt-uit-in-de-regio/

The measure involves the development of renewable energy (solar power) in combination with storage in electric car batteries of a surplus of the decentralized produced power in order to avoid grid stress. Electric cars can be charged and discharged according the demand of the power in the house or the electric car battery. Bidirectional charging points for electric cars, provide optimal use of decentralized generated solar power. At this charging point, the car can both charge and discharge wherever the power is necessary. The car battery is therefore used as a storage unit for solar energy that can be used when necessary.

Solar powered electric mobility is made accessible to a large audience by sharing the costs among users. Through a website 'We Drive Solar' residents can apply for a 100% (shared) electric car with a range of 300 kilometres, which also forms part of a local energy system on solar energy. All residents, businesses and organizations in the province of Utrecht can participate. Entry fee: € 99, - per month, including mileage, insurance and an app to unlock the car. Each car gets its own parking space and charging point. There are 150 cars available.

For more details:

- https://youtu.be/4FehqeU62Jk?list=PLvzHLhum83vvaflbiI9BcQPzea1DrB5_6

Street cleaning and dust binding to reduce re-suspension (Helsinki)

Street dust concentrations in Helsinki have been successfully reduced by:

- intensive street cleaning with high-pressure washing equipment;
- dust binding with calcium chloride solution.



Source: http://www.redust.fi/files/2015/03/Laymans-report_net2.pdf

Different methods of cleaning streets were studied in the REDUST Life + project in 2011-2014. The best results for respirable street dust mitigation in the street cleaning demonstration tests were achieved with methods which apply high pressure water washing, such as the modern street scrubber. During first day after treatment the emission reduction was approximately 40% and during the first week after treatment on an average 20%. Compared to traditional street cleaning equipment (so-called suction sweepers) the modern street scrubber has additional high pressure washers which reach the dust accumulated in the pores of street surfaces. Reduction in respirable street dust emissions was not recorded for a traditional suction sweeper in the demonstration testing. The traditional method is based on mechanical brushing and suction, which does not deep-clean the street surface like the machines with actual pressure washers. But when the traditional suction sweeper was operated in combination with a separate lorry using high pressure washing, reductions in respirable street dust emissions were achieved.

Dust binding refers to the spreading of liquid solutions on paved streets to mitigate street dust emissions. In the Helsinki region mainly calcium chloride is used for dust binding.

The effects of dust binding on street dust emissions were studied in the REDUST Life + project in 2011-2014. The results showed that dust binding is a very cost-effective way to reduce high street winter and springtime dust concentrations in road environments. Targeted dust binding to street edges and to the area in the middle of the lanes decreased street dust emissions by approximately 40% during two days after the action and whole lane dust binding by approximately 60% for three days after the action.

For more details:

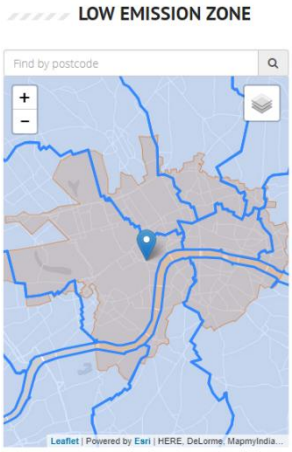
- REDUST Life + project website, Layman´s report: http://www.redust.fi/files/2015/03/Laymans-report_net2.pdf
- REDUST Life + project website, Best practices report: http://www.redust.fi/files/2014/12/REDUST-best-practices.pdf

CONSTRUCTION SECTOR MEASURES

Non-Road Mobile Machinery Low Emission Zone - NRMM LEZ (London)

LONDON'S 'LOW EMISSION ZONE' FOR NON-ROAD MOBILE MACHINERY

Low emission zone for non-road machinery e.g. construction machinery: within central areas of London all NRMM must meet Stage 3B (3A in outside central London).



Source: http://nrmm.london/

For more details:

- http://nrmm.london/

Particle Filters eco-label for construction machinery (Berlin)

On public works sites in Berlin, many construction machines have to meet environmental requirements. Compliance with the requirements must be demonstrated by the contractor. To simplify this, an eco-plaque for construction machinery was created in Berlin: it is an eco-label in terms of public procurement law.

The environmental standards required on public works sites in Berlin are usually met by new machines without further systems. Older machines can still be used if they are retrofitted with a particulate filter. In these filters, the very smallest soot particles are retained, so that both the particle mass and the number of particles in the exhaust gas are reduced by more than 90%.

The introduction of environmental standards for construction equipment and filter retrofitting is a new challenge for many construction companies. For a successful retrofit, careful filter selection and proper maintenance are essential. Therefore, the Senate Department for Urban Development and Environment promotes a consultancy project by 2016 that provides companies with technical support.

Source: https://www.berlin.de/

For more details:

- https://www.berlin.de/senuvk/umwelt/luftqualitaet/de/baumaschinen/plaketten.shtml

HEATING SUPPLY MEASURES

Ban of solid fuels for household heating (Kraków)

The European Environmental Agency has ranked the City of Krakow the third most polluted city in Europe. Being air quality an issue for a long time in the city of Krakow it has inspired grass-root initiatives such as the Krakow Smog Alert (Krakowski Alarm Smogowy).

Source: http://www.krakowpost.com

Acceleration of anti-smog activities was possible thanks to the LIFE Integrated Project 'Implementation of Air Quality Plan for Małopolska Region - Małopolska in a healthy atmosphere', LIFE-IP MALOPOLSKA - a project implemented by the regional authorities of the Małopolska Region and Silesian Region, the Krakow Smog Alert and 55 municipalities including the City of Krakow.

The Regional Assembly of the Małopolska Region adopted in 2016 a ban of coal and wood as heating fuels in Krakow starting September 2019, through a specific **Municipal Regulation** (so-called anti-smog resolution). This is a radical measure for Poland and the acceptance for these new laws by the city inhabitants wouldn't be possible without the long and active engagement of initiatives such as the 'Krakow Smog Alert' and support from regional and local authorities offering subsidies up to 100% for solid fuel boilers replacement and additional assistance in covering the differences in heating costs for people affected by energy poverty.

At the beginning of 2018, less than 10,000 boilers and stoves remained in Krakow out of 24,000 counted in 2015.

For more details:

- https://powietrze.malopolska.pl/en/anti-smog-resolution/

District heating mandatory for new buildings (Upper Austria)

The Air Quality Protection and Energy Act of Upper Austria regulates the installation and use of heating systems.

Source: https://www.upperaustria.com

Since 2012 it requires new public buildings and apartment buildings including more than three apartments to be connected to a public district heating system in the case such a system is available.

In addition, cities where are quality limit values are breached might require all new apartment buildings to be connected to the district heating system. This is the case in the city of Linz.

There are exemptions for buildings with heating systems based on renewable energy and passive houses.

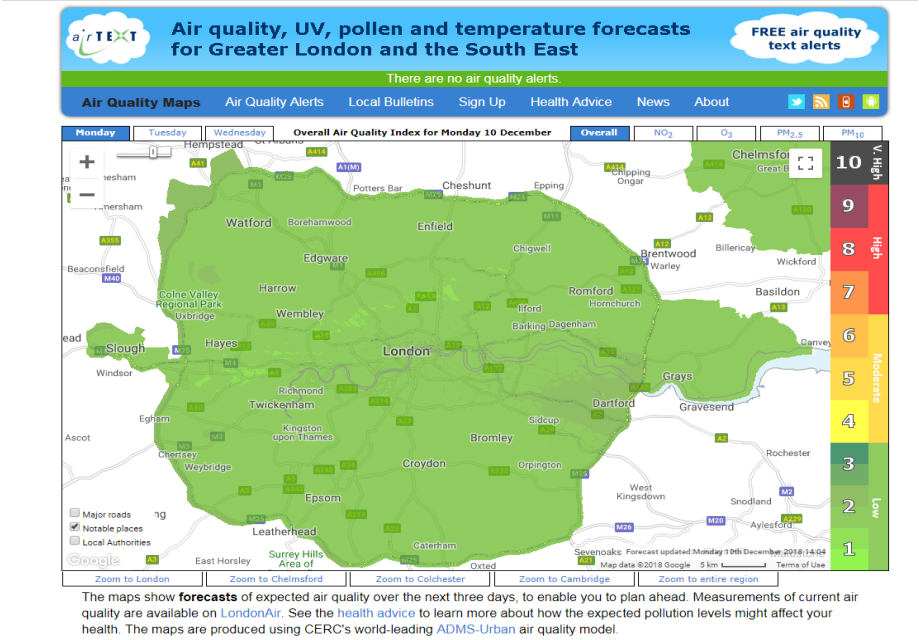
For more details:

- http://www.land-oberoesterreich.gv.at/cps/rde/xchg/ooe/hs.xsl/68293_DEU_HTML.htm
- http://www.land-oberoesterreich.gv.at/cps/rde/xchg/ooe/hs.xsl/110309_DEU_HTML.htm

CITIZENS' AWARENESS MEASURES

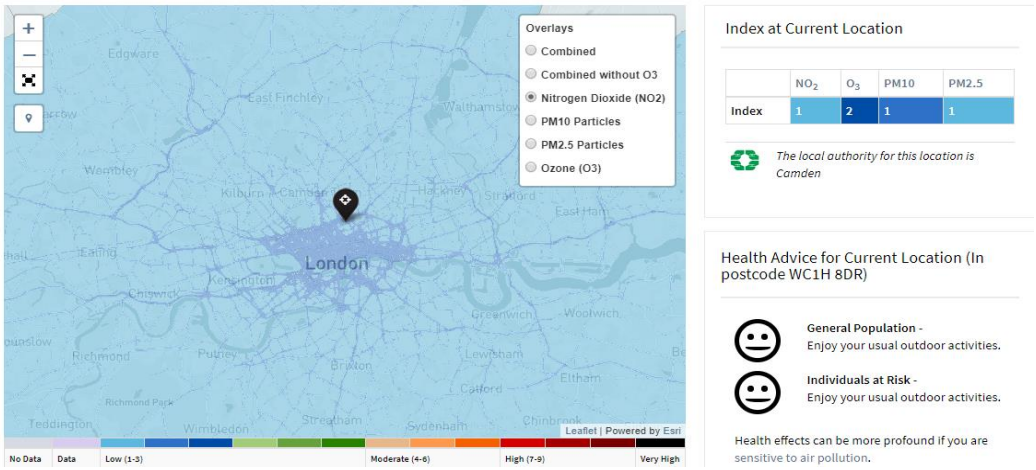
Air Quality Alert Websites (London)

A dedicated website shows maps with **forecasts** of expected air quality over the **next three days**, to enable citizens to plan ahead. It is possible to see the '**health advice**' to learn more about how the expected pollution levels might affect citizens health. The maps are produced using CERC's world-leading 'ADMS-Urban' air quality model. Free air quality alerts are available on demand on **Mobile App**.



Source: https://www.airtext.info/

Measurements of **current air quality** are available on LondonAir web site.



Source: https://www.londonair.org.uk/london

For more details:

- www.airtext.info/
- http://www.londonair.org.uk/LondonAir/Default.aspx

VI Recommendations for Air Quality Planning on Good Policies, Governance and Practices

In the following sections are reported some recommendations formulated by the cities that responded to a survey launched by the PAQ to its members in the framework of WP4 activities, which prepared Action 2 - Better Air Quality Planning (Governance).

These recommendations, fully implemented in the text of this Code, could be used for inspiration by cities in drafting, implementing and monitoring their own Air Quality Plan (AQP).

Policies

Aspects to be considered when drafting AQP

- **Complementarity of all activities defined in the AQP and those included in other relevant Planning documents of the City,** in order to obtain a positive synergistic impact and measurable
- **Complementarity with other strategic documents adopted on regional and national level**

Governance

Aspects to be considered when drafting AQP

- **Involving the Stakeholders who carry out the actual air quality measures** (e.g. procurement of **bus fleet, traffic system planning offices, tertiary system representative organizations, energy supplier agencies**) in preparation for the plan, to ensure their full implementation
- **Stakeholder/Public Consultation**
- **Looking for Political and Public support for air quality measures listed in the AQP**
- **Looking for available funding for specific measures**

ISSUES TO BE addressed in drafting AQP

SELECTION OF MEASURES TO BE ADOPTED

- Verifying if **any management/maintenance of air quality measures need to be enforced by Local Environmental Protection Agencies or National Authorities** (e.g. Large infrastructures within the boundary or in the near proximity of the City)

ISSUES TO BE addressed in MONITORING AQP

MONITORING IMPLEMENTATION OF AQP

- An important component of the process of implementation of AQP is **supervision and control** through **reports on measures implementation**, which contain a

description of measures, information on undertaken activities, performance assessment, potential issues, deviations and justification. Based on such feedback it is possible to consider the **effectiveness of the selection of measures defined in the plan** or **avoid potential problems in the development of new and/or other plans**

How to deal with Air Quality issues that cannot be solved at urban level

REGIONAL AND METROPOLITAN ISSUES

- **Involvement of Regional or Metropolitan area Organizations and Agencies** in order to better manage main emission sources (e.g. roads and highways, public transport, Local Environmental Authority)

NATIONAL ISSUES

- As far as over-regional issues are concerned **City Authorities could send communication to or look for dialogue with relevant National Ministries asking them to take action** (e.g. to amend the legislation concerning vehicle taxation and to enable regional congestion charges with the revenue directed to the region in question)
- **Lobbying Central Government** on a number of air quality issues that cannot be resolved solely at a city level (e.g. a national diesel scrappage scheme, reform to Vehicle Excise Duty, a new Clean Air Act)
- **The City Authorities could also address these issues to a National Council with representatives of cities/big cities**

INTERNATIONAL ISSUES

- **Lobbying at international level**

Tuning between cities AQP and AQP developed for other zones and agglomerations

During the development of the AQP it is important to:

- to create **co-operation between national, regional, agglomerations and cities authorities**, in areas where air quality standards are not met (crossing areas) **to meet the limit values**
- **to request opinions** on the Plan and its measures **from the neighbouring cities that belong to the Metropolitan Area**, in order to cooperate and harmonize measures
- to **align cities air quality strategy with Regional Air Quality Plans and National Air Quality Strategy, Plans and Programs**

Practices

- **Following the suggestions and source of inspiration listed in the present Code of Good Practice for Cities Air Quality Plans, which is, at present, the best Recommendation for AQ planning.**

Publication as pdf: https://ec.europa.eu/futurium/en/air-quality

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