



UNECE Air Convention
(LRTAP)

**2nd Expert Panel on
Clean Air in Cities
(EPCAC)**

29 September 2020



Comune di
Milano

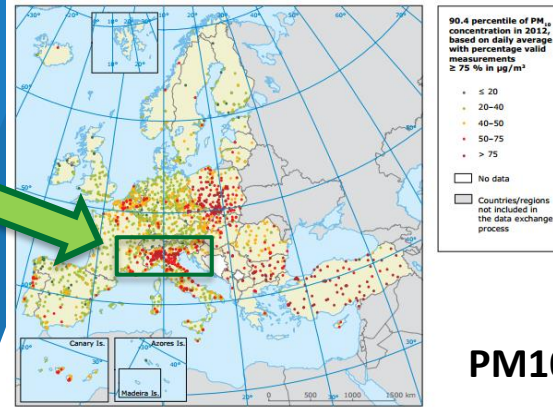


Air quality planning and Health Impact Assessment experiences in Milan

Silvia Moroni, PhD
AMAT - City of Milan 1

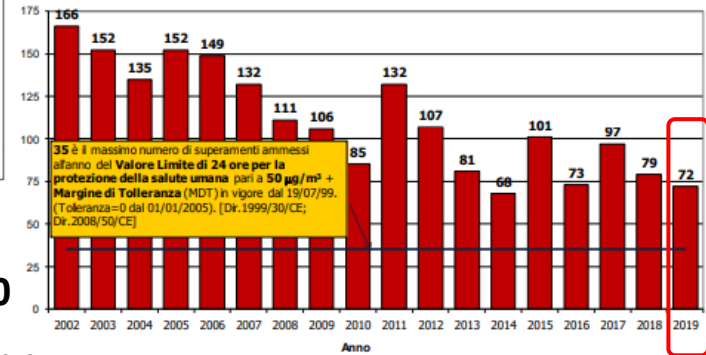
Air Quality in Milan

Air quality is one of the most important **environmental and health issues** for the City of Milan - together with the whole Po Valley - affected by strong unfavorable meteorological conditions



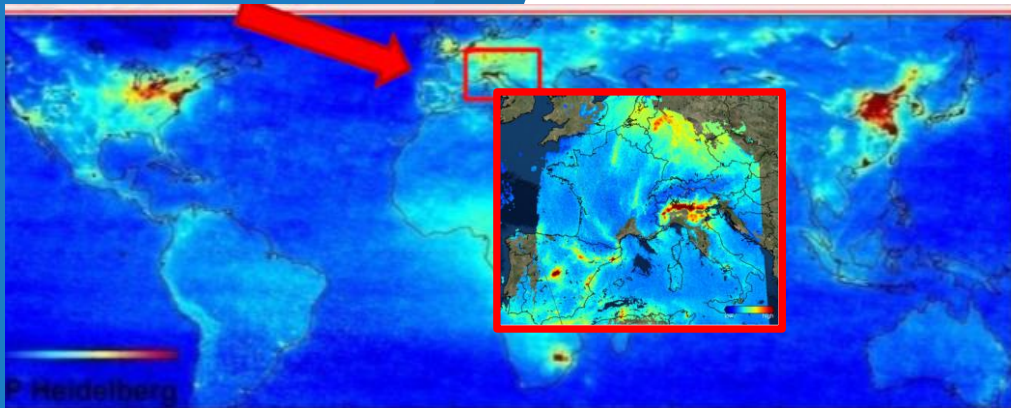
Source: EEA, 2018, Air Quality in Europe, Report n. 12/2018

PM10 - Annual Number of exceedances days



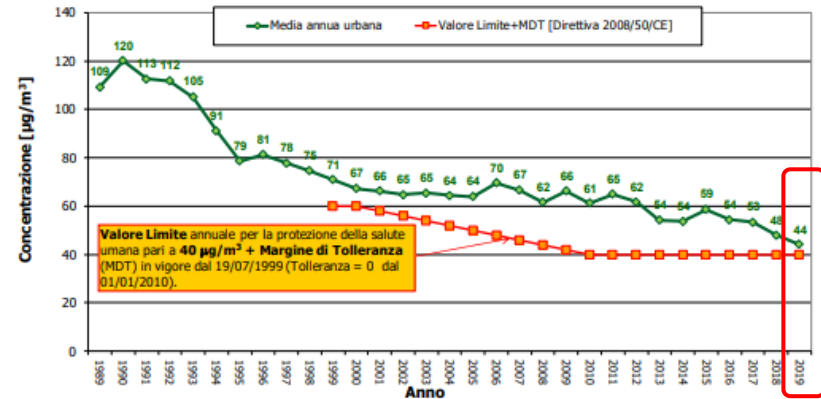
PM10

Source: AMAT elaboration on ARPA Lombardia data



Source: ESA, European Space Agency, 2004 and 2018

NO₂





- ✓ The second Italy's largest metropolitan area (*3.5 millions inhab*)
- ✓ The city population : 1 M and 1.3 M daily city users
- ✓ An area of 18.200 ha and High density : 7.200 inhabitants/km²
(*metropolitan area: 188 municipalities, 1.885 inhabitants/km²*)
- ✓ Number of vehicles/inhabitants: 507 vehicles/1000 inhabitants

City of Milan

Implemented measures to reduce local emissions

'Area C': the Milan Congestion Charge



'Area B': the Milan Low Emission Zone



-  **Divieto di accesso per i veicoli maggiormente inquinanti**
Lunedì - Venerdì dalle 7:30 alle 19:30 escluso i festivi
-  **Divieto di ingresso dei veicoli ingombranti, superiori a 12 metri**
Lunedì - Venerdì dalle 7:30 alle 19:30 escluso i festivi
-  **Accesso controllato e monitoraggio dei veicoli che trasportano merci pericolose**
Lunedì-Domenica - dalle 0:00 alle 24:00



Sustainable Energy Action Plan

Sustainable Urban Mobility Plan



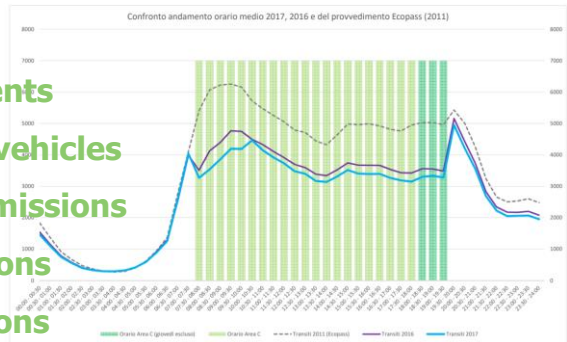
City of Milan:

Benefits from traffic measures

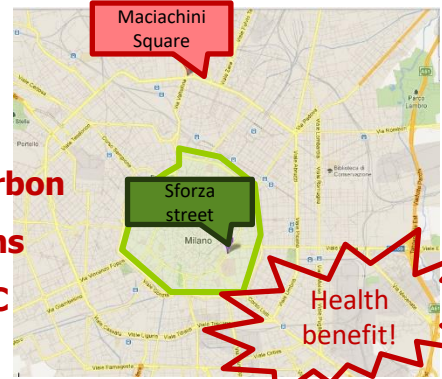
'Area C': the Milan Congestion Charge



- 30% traffic;
- 28% road accidents
- 49% most polluting vehicles
- 19% PM₁₀ exhaust emissions
- 10% NO_x emissions
- 22% CO₂ emissions

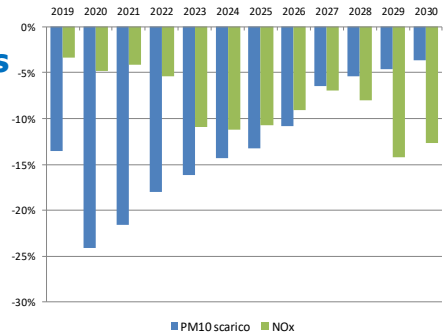


Pilot project:
- 52% Black Carbon concentrations inside Area C



'Area B': the Milan Low Emission Zone

- 50% PM₁₀ exhaust emissions within 4 years
- 50% NO_x traffic emissions within 10 years



H2020 Project:

CARES
City Air
Remote Emission Sensing

Milan as a pilot city for new concept remote emission sensing systems



CARES

AIR QUALITY and CLIMATE PLAN

- ❖ First Milan voluntary AQ&Climate Plan
- ❖ The process started on 4th October 2019, with approval of Guidelines for the elaboration process
- ❖ The submission to the Screening process of Strategic Environmental Assessment (SEA) gave result: SEA not needed

41/62



DELIBERAZIONE DELLA GIUNTA COMUNALE N. 1653 DEL 04/10/2019

AREA ENERGIA E CLIMA
Numero proposta: 3426

OGGETTO: Approvazione delle linee di indirizzo per l'avvio del procedimento di elaborazione del Piano Aria e Clima (PAC) e del relativo procedimento di verifica di assoggettabilità a valutazione ambientale strategica, ai sensi della direttiva 2001/42/ce e del d.lgs. n. 152 del 3 aprile 2006 e s.m.i. La presente deliberazione non comporta spesa. Immediatamente eseguibile.

L'Anno duemiladiciannove, il giorno quattro, del mese di ottobre, alle ore 9.05, nella sala giunta del palazzo municipale si è riunita la Giunta Comunale.

AIR QUALITY and CLIMATE PLAN

→ Air Quality Goals:

Integrated approach

Short term

- ✓ *By 2021 fix an AQ strategy for compliance with WHO Guidelines for all pollutants on long term*

Medium Term

- ✓ *By 2025 compliance with EU AQ Limit Values for PM10, PM2.5 and NO₂*

Long Term

- ✓ *By 2050 approach WHO AQ Guidelines*

→ Climate Change Goals:

- ✓ *By 2030 -45% CO₂ emissions vs 2005*
- ✓ *By 2050 Carbon neutrality*

AIR QUALITY and CLIMATE PLAN

Scope 1: Inclusive Milan

*A healthier, safer and
more equitable City*

*A flexible City with
smooth and
sustainable mobility*

Scope 2: Slow Milan

Scope 3: Positive Energy Milan

*A City that consumes
less and consumes
better*

AIR QUALITY and CLIMATE PLAN

**Scope 4:
Cool Milan**

*A City
that cools
down*

**Scope 5:
Aware
Citizens**

*A City with citizens adopting
sustainable lifestyles*

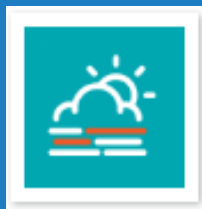
AIR QUALITY and CLIMATE PLAN

Example of listed Actions for AQ improvement (in Scope 1 and 2)

- ❖ Protecting most sensitive people from traffic-related pollution
- ❖ Air Quality monitoring for proximity scale intervention impacts assessment (highly advanced multi-parameter sensors network)
- ❖ Implementing an air quality modelling system to support planning activities
- ❖ Regulating highly polluting activities other than traffic-related
- ❖ Developing sustainable techniques for agriculture
- ❖ Air quality Fund project
- ❖ Reduction of traffic-related PM resuspension
- ❖ Strengthening existing LEZs (Low Emission Zone)
- ❖ Implementing a Zero Emissions Zone
- ❖ Reducing the use of private motor vehicles
- ❖ Implementing a carbon-neutral area



Partnership Air Quality



Members

Member and
Actions Leader

The Members of the Partnership are:

Member States The Netherlands (Coordinator), Croatia, Czech Republic, Poland;

Cities Helsinki/HSY (FI), London (UK), Utrecht (NL), **Milan (IT)** Constanta (RO), and Duisburg (DE - Representing the Consortium Clean Air Ruhr Area);

Stakeholders EUROCITIES, HEAL (Health and Environment Alliance);

Observers: **European Commission** DG Regional and Urban policy, DG Environment, DG Research & Innovation, DG Agriculture, DG Growth, the Joint Research Centre (JRC); URBACT

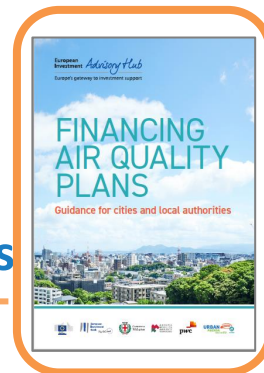
City of Milan
Actions
Leader:



✓ **A Code of Good Practices for designing
and implementing Air Quality Plans**

in compliance with Dir. 2008/50/EU

✓ **A Guidance for financing Air Quality Plans**



✓ **A tool for assessing Citizen's Health**

✓ **A Communication toolbox on Air Quality**



City of Milan
Pilot Project:



<https://ec.europa.eu/futurium/en/air-quality>

'Code of Good Practices for Cities Air Quality Plans'

4 Thematic reduced versions for easier consultation

Part I - Why to develop a City Air Quality Plan

Part II - How to draft and implement a City Air Quality Plan

Part III - Methodologies and Tools for Assessment

Part IV - Inspiring Examples



CODE OF GOOD PRACTICES FOR CITIES AIR QUALITY PLANS

Part I

Why to develop a City Air Quality Plan



CODE OF GOOD PRACTICES FOR CITIES AIR QUALITY PLANS

Part III

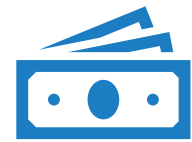
Methodologies and Tools for Assessment



A 'user-friendly' guidance

Action 3 tool

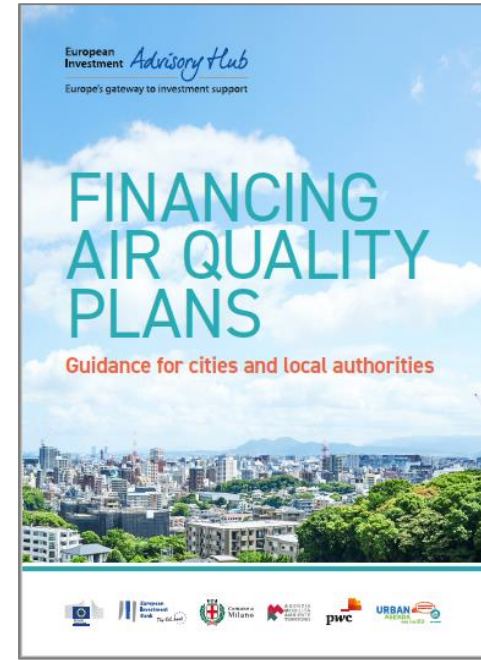
A Guidance for better financing your city AQP



'Business Model' for Cities Air Quality Plans (MILAN Pilot Project with EIB)



Guidance for financing Cities Air Quality Plans



In cooperation with:



Better Air Quality
Planning
(Governance)

Air Quality Plan

....

for Health
protection

AIR QUALITY PLAN benefits:



✓ Compliance with
EU legislation
(Dir. 2008/50/EC)*

✓ Achievement of
Sustainable Development
Goals



✓ Realize the 'Healthy city'

* also NAPCP, Dir. 2016/2284/EU

Action 4 tool

A Health Impact Assessment tool for cities

'PAQ2018' Health Impact Assessment tool



Pilot Project of testing PAQ 2018 for City of Milan Air Quality and Climate Plan



In cooperation with:
City of Utrecht, Univ. of Utrecht
and RIVM



Utrecht University



National Institute for Public Health and the Environment
Ministry of Health, Welfare and Sport



The PAQ2018 tool

Features

- ❖ The tool is an adaptation of the AirQ+ and GGD tool
- ❖ It makes HIA feasible for municipalities of European cities in particular
- ❖ Compared to the AirQ+ and GGD tool, the output is extended with DALYs and the Health damage evaluation in Euros (External costs)



The PAQ2018 tool

By experience of testing in Milan

Possible difficulties for cities

- to obtain local hospital admissions and mortality data (in general national, regional data, not always available online)
- to find local data related to ‘baseline incidence rates’ in the population for different health endpoints
- to define how to change adjustable ‘cut-off values’

Possible tool improvements

- Monetarization for all the diseases
- Better definition of the ‘cost per unit’ for mortality/diseases attributed to different pollutants; opportunity to use them in different countries
- Automatization for multiple years scenarios estimation

Benefits in using the PAQ2018 tool

- ✓ good screening tool to assess **health benefit/loss** of a change in air quality
- ✓ rich tool outputs (health and external costs gain/loss)
- ✓ easy to be used for a city (with technicians short self-training with epidemiologic terms (DALY, YLL, YLD, etc) and data needed)
- ✓ useful text guide to use the tool (that explain also basic epidemiologic terms used in the tool)
- ✓ possibility to use default values of Europe in case of not local data available
- ✓ possibility to assess both **present situation** (for one or more pollutants) and several scenarios (different years/measures impact)

Thank you
for your attention!



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EU Urban Agenda - Partnership on Air Quality, Action 2 and Action 3 Leader

