Workshop 5

Taking into account the non governmental sector in environmental health policies
Marchienne-au-Pont (Charleroi)

An example of the atmospheric pollution health consequences management with local field actors

Patrick JADOUILLE, G.P.
Maison médicale « La Glaise »
Rue Léon Dubois, 241
B/6030 Marchienne-au-Pont
++ 32 71 31.87.47.
mm.laglaise@belgacom.be
Atmospheric pollution

More or less distant dispersal of pollutants

Transformation of pollutants in the air

Sources: Industry, heating, transport, ...

Pollutants entering houses

$\text{SO}_2$, $\text{NO}_x$, $\text{PM}_{10}$, $\text{CO}$, $\text{O}_3$
Fine Particulate Matters (PM)

Human Hair (60 μm diameter)

Hair cross section (60 μm)

PM10 (10 μm)

PM2.5 (2.5 μm)
Gaseous organic carbon

Organic compounds volatile

PM

SO$_2$, SO$_4^{2-}$

NH$_3$

H$_2$SO$_4$ → (NH$_4$)$_2$SO$_4$

H$_2$O

Marine aerosols (NaCl)

Biologicals (Pollen, spores, ...)

Windblown dust

Emissions
- Minerals (silica, ...)
- Metals (Pb, Fe, Zn, ...)

NO$_x$
Les particules > 10 µm sont arrêtées dans les voies supérieures.

Les particules < 10 µm pénètrent dans les voies inférieures.

Les particules < 3,5 µm s’insinuent au fond des poumons (particules diesel).
Effects of PM on health (WHO 2006)

- Increased risk for cardiovascular and respiratory diseases
- Increased risk for lung cancer
- Average reduction of life expectancy:
  - 8.6 months in Europe
  - 13.2 months in Belgium
Atmospheric pollution and health

Between rules and reality...
E.U.:

- max 35 days > 50 µg PM 10/m^3 in the air over a year

- annual average concentration < 41 µg/m^3
[PM10] in Marchienne-au-Pont in 2006:

- 175 days of average daily concentration > 50µg/m³
- Annual average concentration = 59 µg/m³

⇒ there is a problem!
Timeline

- 2005: Concerns of health actors, multiple arrests
- 2006: Recurrence peaks of pollution
- 2007: Creation of structures for dialogue
- 2008: Industrial investment
- 2009: Improving air quality in Charleroi

- 2005: Awareness of the Walloon Region: mobilization
- 2008: Training of medical and social actors

Due to nuisance complaints
structures for dialogue and consultation

- « Environment and health » Group
- Technical & Scientific Committee
- Monitoring Committee
«Environment & Health» Group:

- Assess the impact of air pollution on the health of residents
- Inform and train health professionals and social workers
- Inform residents
- Contribute to the wellbeing of the population
«Environment & Health» Group:
Composition

- Expert appointed by residents
- Maison Médicale « La Glaise »
- « Espaces citoyens » from Public Centre for Social Activation
- « Espace Environnement » - ASBL
- City officials and Public Centre for Social Activation
- Observatoire de la Santé du Hainaut
- Institut Scientifique de Santé Publique
- Regional administrations and Community Environment and Health
- Offices of Regional Ministers and Community Environment and Health
Technical and scientific committee: missions

- validate the technical options proposed by industry,
- study and propose concrete technical solutions, in consultation with the industries concerned.
Technical and scientific committee: composition (1)

- Président = président of Department of Licensing and Authorization (regional administration)
- Technical expert of the research center of metallurgy
- Representatives of residents:
  - President of the inhabitants committee
  - Technical expert
  - Environmental expert
Technical and scientific comity: composition(2)

- Officials from the city of Charleroi:
- Walloon Region:
  - Ministries of Environment and Health
  - Institut Scientifique de Service Public (ISSeP)
  - Department of Licensing and Authorization (DPA)
  - Environmental Police Industriels (DPE)
- Experts:
  - Scientific experts from the administration
  - University scientific experts
Monitoring Committee : missions

Monitoring of industrial investments to improve the air quality by being regularly informed of:

- the status of industrial investments;
- analysis results of air quality following the measures put in place;
- reports prepared by the technical and scientific committee.
Monitoring Committee: composition

- Chair = Chairman of Committees of riparian
- Many residents
- Deputy major of the environment of the city of Charleroi
- Unions of the industries concerned
- President of Scientific & Technical Committee
- « Espace environnement » - ASBL as ombudsman
Industrial mobilization

• Leverage = Review forthcoming environmental permits that define the operating conditions

• The three steel plants presented an investment program
  • new filters and treatment programs
  • demolition of disused facilities
  • storage and disposal of dust

→ over 100 million euros
Industrial mobilization

• investment examples
  – Steelworks: suction roof and new dedusting
  – Blast Furnace: new suction and filtration equipment
  – Agglomeration: 4 new electrofilters
  – Activated carbon injection to improve combustion
  – Continuous measurements of the concentration of dust

ISSeP performs periodically air testing → quality air significantly improves
Number of days exceeding
Workshop with homemakers

- leaflet
  - 25 questions frequently asked
  - 11 questions selected
  - Conception: Espaces Citoyens
    Maison Médicale La Glaise,
    Espace Environnement
  - Validation: workgroup
    «Environnement & Health»
Workshop with homemakers

• Themes:
  – Health: respiratory diseases, headache, dépression, allergy, children’s health
  – Behavior: vegetable consumption, pollution peak, aeration
  – Working conditions in industry
  – Political responsibility