Health and the Protocol on Strategic Environmental Assessments
- setting the scene through an example -

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“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1946)

General social, economic & political factors (macro level)
Global ecosystem (incl. climate change & natural hazards)
Natural environmental factors
Built environment & housing (incl. green spaces)
Health services, public & private services (including local economy)
Employment & livelihood (incl. occupational factors)
Community & family structure (incl. health inequalities)
Behavioural risk factors & lifestyle
People - Biological and genetic factors

Source: Nowacki J, 20018
Protecting health through a high level of protection of the environment

• In 2012, 12.6 million deaths globally, were attributable to the environment - nearly 1 in 4 of total global deaths.

• When accounting for both death and disability, the fraction of the global burden of disease due to the environment is 22%

• In children under five years, up to 26% of all deaths could be prevented, if environmental risks were removed.

Environmental risk factors with likely (significant) effects on health

- Air pollution including indoors and outdoors
- Inadequate water, sanitation and hygiene
- Chemicals and biological agents
- Radiation ultraviolet and ionizing
- Community noise
- Occupational risks
- Climate change
- Built environments including housing and roads
- Agricultural practices including pesticide-use, waste-water reuse
Health and non-health plans, programmes and policies fields are interlinked

• e.g. defined in the Ostrava Declaration (2017)
  - Air quality
  - Drinking-water, sanitation and hygiene
  - Chemicals
  - Waste and contaminated sites
  - Climate change mitigation and adaptation
  - Sustainable cities and regions
  - Environmental sustainability of health systems

Source: WHO Regional Office for Europe, 2017
Providing a **high level protection of the environment, including health**, through development of **plans and programmes**, preparation of **policies and legislation**, integration to further **sustainable development**

**Sectors where SEA (may) apply (Annex I, II)**

a) Agriculture, forestry and fishery  

b) Energy industry  

c) Extractive industry  

d) Other industry (e.g. chemicals, food)  

e) Infrastructure projects  

f) Telecommunications  

g) Tourism and leisure  

h) Waste management  

i) Water management  

Source: based on UNECE (2003)
Why is it not enough to tick off limit values or thresholds? An example: air pollution

• In 2012, 92% of the world’s population lives in places where air quality levels exceed “WHO’s Ambient Air quality guidelines” for annual mean of particulate matter with a diameter of less than 2.5 micrometres (PM$_{2.5}$: 10 μg/m$^3$ year).

• An estimated 6.5 million deaths (11.6% of all global deaths) were associated with indoor and outdoor air pollution together - out of this 3 million to outdoor air pollution.

• Nearly 90% of air-pollution-related deaths occur in low- and middle-income countries.

Air pollution: major sources & diseases attributable to the environment

• Major sources of air pollution include
  – inefficient modes of transport
  – household fuel
  – waste burning
  – coal-fired power plants, and
  – industrial activities.

Source: Prüss-Üstün A, et al., 2016, p. XVI, Fig. ES2
Urban population in the EU-28 exposed to air pollutant concentrations above the EU and WHO reference levels (2014-2016)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>EU reference value</th>
<th>Exposure estimate (%)</th>
<th>WHO reference value Air Quality Guidelines</th>
<th>Exposure estimate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle PM$_{2.5}$</td>
<td>25 µg/m$^3$ year</td>
<td>6-8</td>
<td>10 µg/m$^3$ year</td>
<td>74-85</td>
</tr>
<tr>
<td>Ozone (O$_3$)</td>
<td>120 µg/m$^3$ 8-hours</td>
<td>7-30</td>
<td>100 µg/m$^3$ 8-hours</td>
<td>95-98</td>
</tr>
</tbody>
</table>

DALYs lost and economic cost of premature deaths as a result of air pollution (APMP+HAP), 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>Premature death</th>
<th>US$ (millions)</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>16 892</td>
<td>53 295</td>
<td>2.3</td>
</tr>
<tr>
<td>Germany</td>
<td>41 582</td>
<td>144 715</td>
<td>4.5</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>119 452</td>
<td>285 467</td>
<td>9.8</td>
</tr>
</tbody>
</table>

Source: WHO Regional Office for Europe, OECD, 2015

- **Some groups** - e.g. older adults, children, pregnant women, people with an underlying disease, e.g. asthma - may be more at risk, and may develop more severe health effects more quickly when exposed to air pollution.

- **Children** are particularly vulnerable to health effects (more time outside, higher respiratory rates, breathe larger volumes of air relative to their body weight; immune, respiratory and central nervous systems are not fully developed in infants)
Tools for assessing health and economic benefits

• Produce estimates that support decision-makers to develop appropriate actions to protect public health

  – AirQ+ - software to calculate the health impacts of AP
  – HEAT - health and economic assessment tool for cycling and walking
  – iSTHAT - (Integrated Sustainable Transport & Health Assessment Tool) a simplified methodological framework (user-friendly interactive Excel-based tool) for evaluation of health and economic benefits of carbon measures in the context of urban transportation.
  – GreenUr - software to calculate the health impacts of Green Spaces

Source: http://www.euro.who.int/en/health-topics/environment-and-health
Why health in environmental assessments?

- Early inclusion of health in SEA - decision-making prevents problems in later stages
- Health is a necessary element of sustainability
- A healthy economy depends on a healthy population
- Health is a main concern of populations involved
- Health gain is a powerful policy driver

If not for health and the environment, why do impact assessments at all?
Health in environmental assessments is about ...

- How to integrate health and balance it with other issues
- Involving the right people
- Team building
- Bridging the language divide

Health is a big issue, you know...
Let’s work together across boundaries and silos for a sustainable future for all!

Thank you for your attention!
References and links


• HEAT - Health Economic Assessment Tool for walking and cycling: https://www.heatwalkingcycling.org/#homepage

