

Integrated Environmental Health Impact Assessment

Denis A. Sarigiannis
denis@eng.auth.gr

European Commission
Joint Research Centre (JRC)
Institute for Health and Consumer Protection (IHCP)
and
Aristotle University of Thessaloniki
Department of Chemical Engineering

Methodology
Guidance
Toolbox
Case studies

Quantify as fully as practicable the environmental health effects of policies in various sectors

- Policies designed to improve health
- Health effects of policies developed for other reasons

Give a fair = unbiased assessment of Uncertainties in what is included

- What is omitted

Identify priority information/knowledge gaps

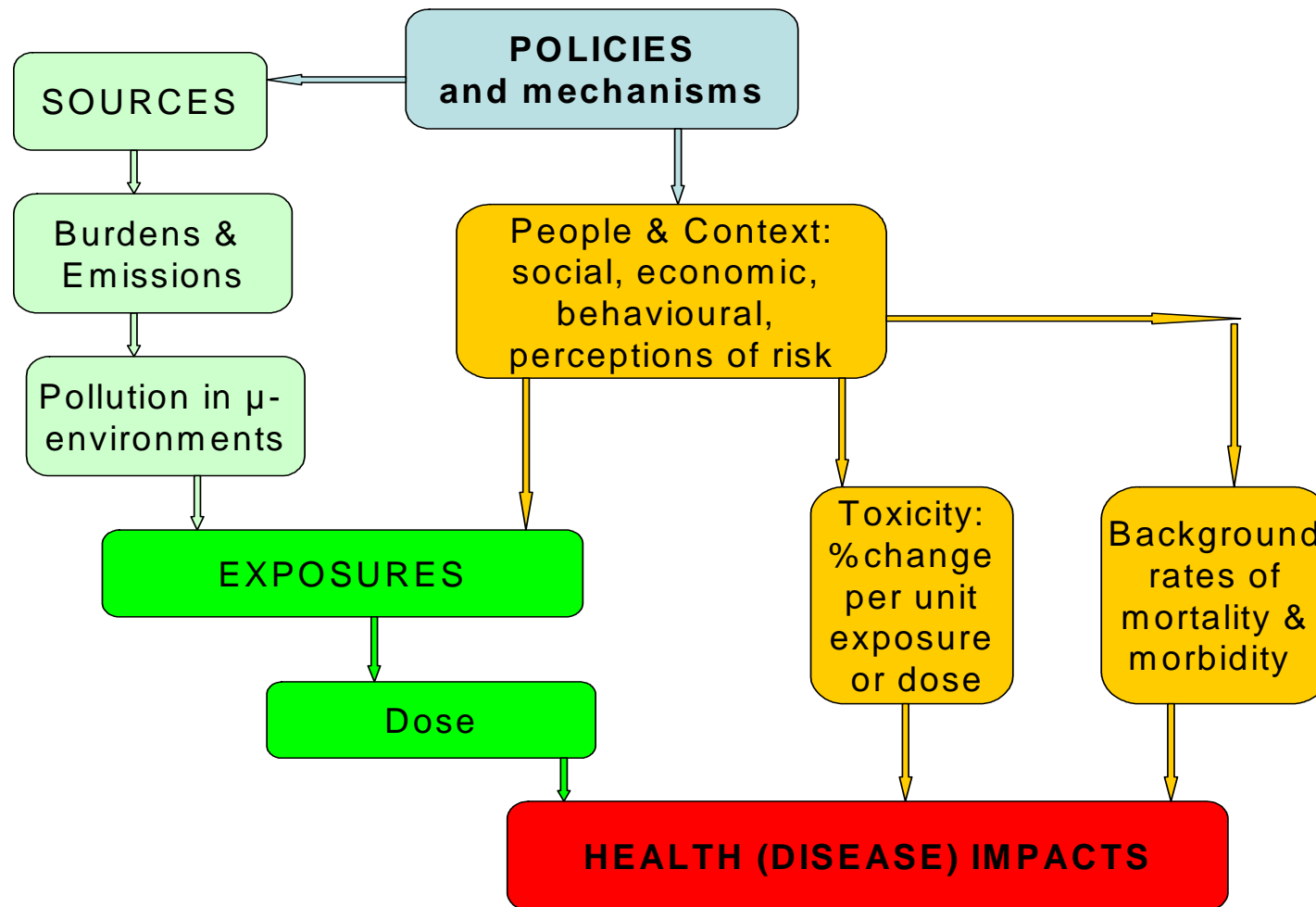
- ✓ Priority = having a major influence on answers

Enable scientifically robust assessment of environmental health effects of future policies

Strategy: 'Full chain' approach

'Full chain' = 'Impact pathway'; from:

- i. (changes in) policy; to
- ii. (changes in) burdens, and emissions, to air, soil and water; to
- iii. (changes in) pollutant concentrations in micro-environments; to
- iv. (changes in) exposures of individuals and populations (by inhalation, dermal and/or ingestion routes); to
- v. (changes in) internal dose at target organs in the body; to
- vi. (changes in) risks of health effects; to
- vii. (changes in) health impacts (overall and in sub-populations); to
- viii. (changes in) monetary value of health effects



Our work paid special attention to:

- a. Developing an 'exposure scenario' approach;
- b. The effects of mixtures of pollutants;
- c. Effects on susceptible sub-populations – e.g. women and children;
- d. Establishing background rates of morbidity;
- e. Improved valuation of health effects in children;
- f. Assessment and representation of uncertainty;
- g. Mapping, as a means of communicating results;
- h. Ease of use:
 - Decentralised modular implementation
 - Prototype of a web-based Decision Support System
- i. Involving (i) policy users and (ii) other researchers and projects