

# Linking air quality research with policy needs

*Dick van den Hout*

The logo for CAIR4HEALTH is displayed within a circular frame, resembling a lens or a camera viewfinder. It features a blue triangle on the left, the word "CAIR" in white, and the word "HEALTH" in green on the right.

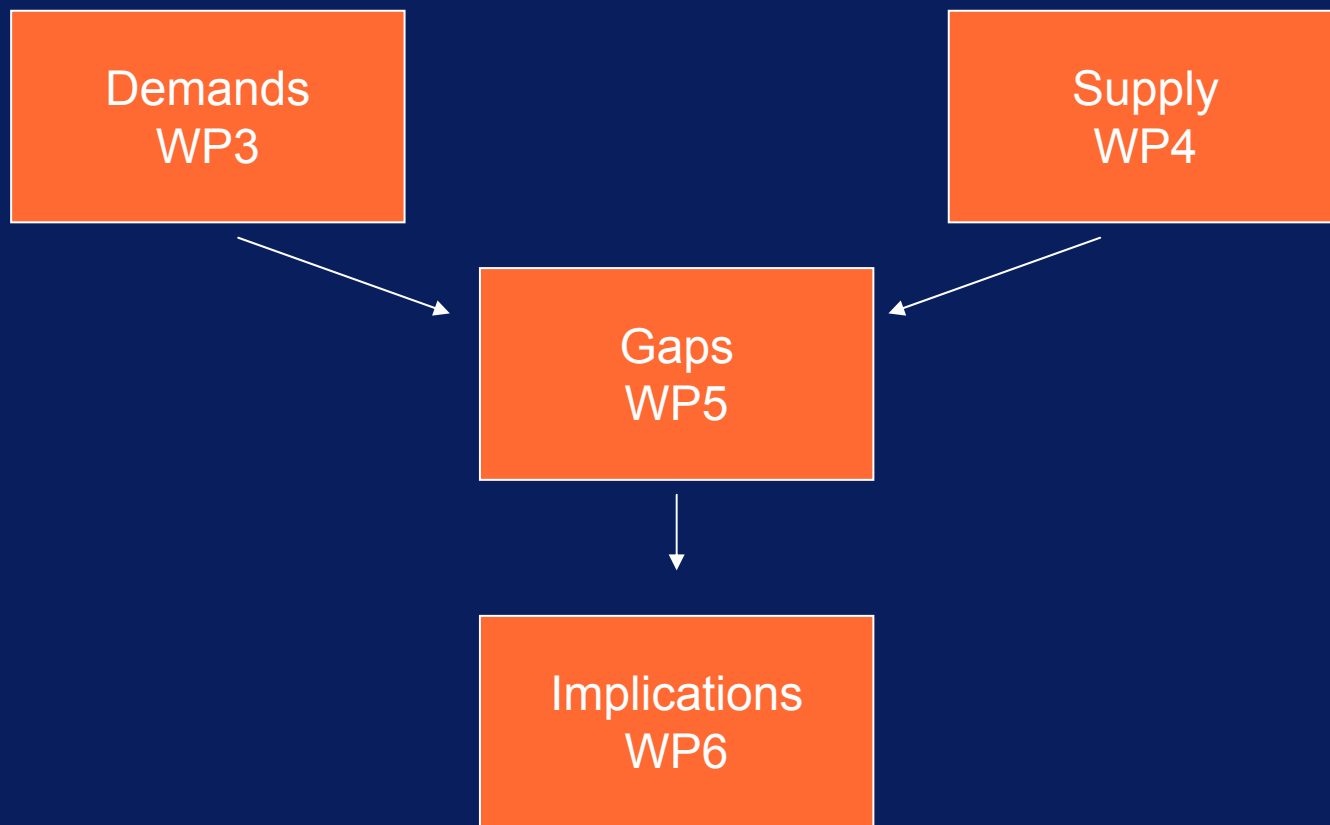
CAIR4HEALTH



# Basic stakeholder needs from research

1. What are the risks of ambient air pollution?
2. What are good measures to reduce these risks?
- (3. Please give clear answers)

# Research priorities not only depend on stakeholder needs

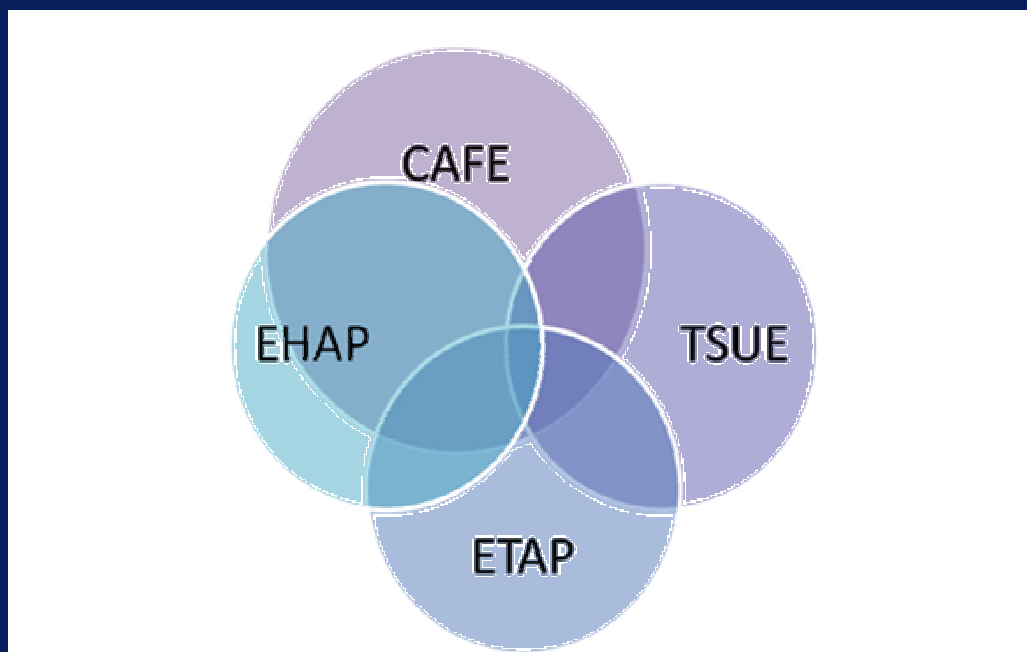


# Policy frameworks and stakeholders

		Stakeholders							
		DG Env	DG Sanco	Member States	Cities	Industry	NGOs	Public (media)	Science
frameworks	Policy	CAFE							
	EHAP								
	TSUE								
	ETAP								

# Programmes

- CAFE / Thematic Strategy on Air Pollution
- Environment and Health Action Plan (EHAP)
- Thematic Strategy on Urban Environment (TSUE)
- Environmental Technology Action Plan (ETAP)



# Air quality research and policy

- **UN-ECE Convention on Long-Range Transboundary Air Pollution – CLTRAP**
  - Science orientation
  - Focus on ecosystem
  
- **EU AQ policy > Clean Air For Europe – CAFE**
  - Policy orientation
  - Focus on health

# Science input to EU AQ policy development

- **Input from:**
  - RAINS model → national emission ceilings
  - WHO expert group → air quality guidelines
- **Other input from:**
  - Stakeholder experts (in e.g. working groups)
  - International bodies (EEA, JRC, EMEP, ...)
  - Consultants

# EU AQ: from research to policy (1)

**Negotiation**



**Policy  
preparation**



**Technical  
analysis**



**Basic  
research**

# EU AQ: from research to policy (2)

## Development AQ directives

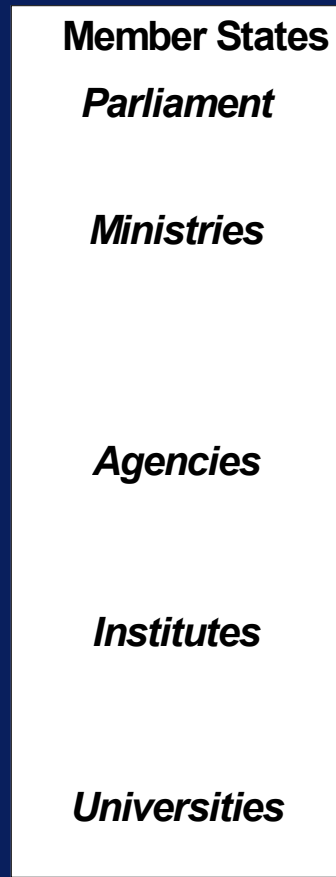
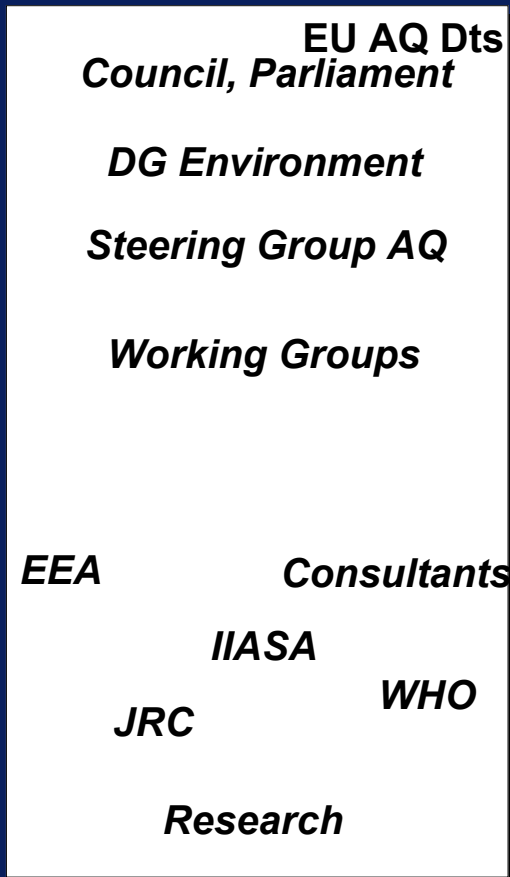
## Typically in Countries

Negotiation

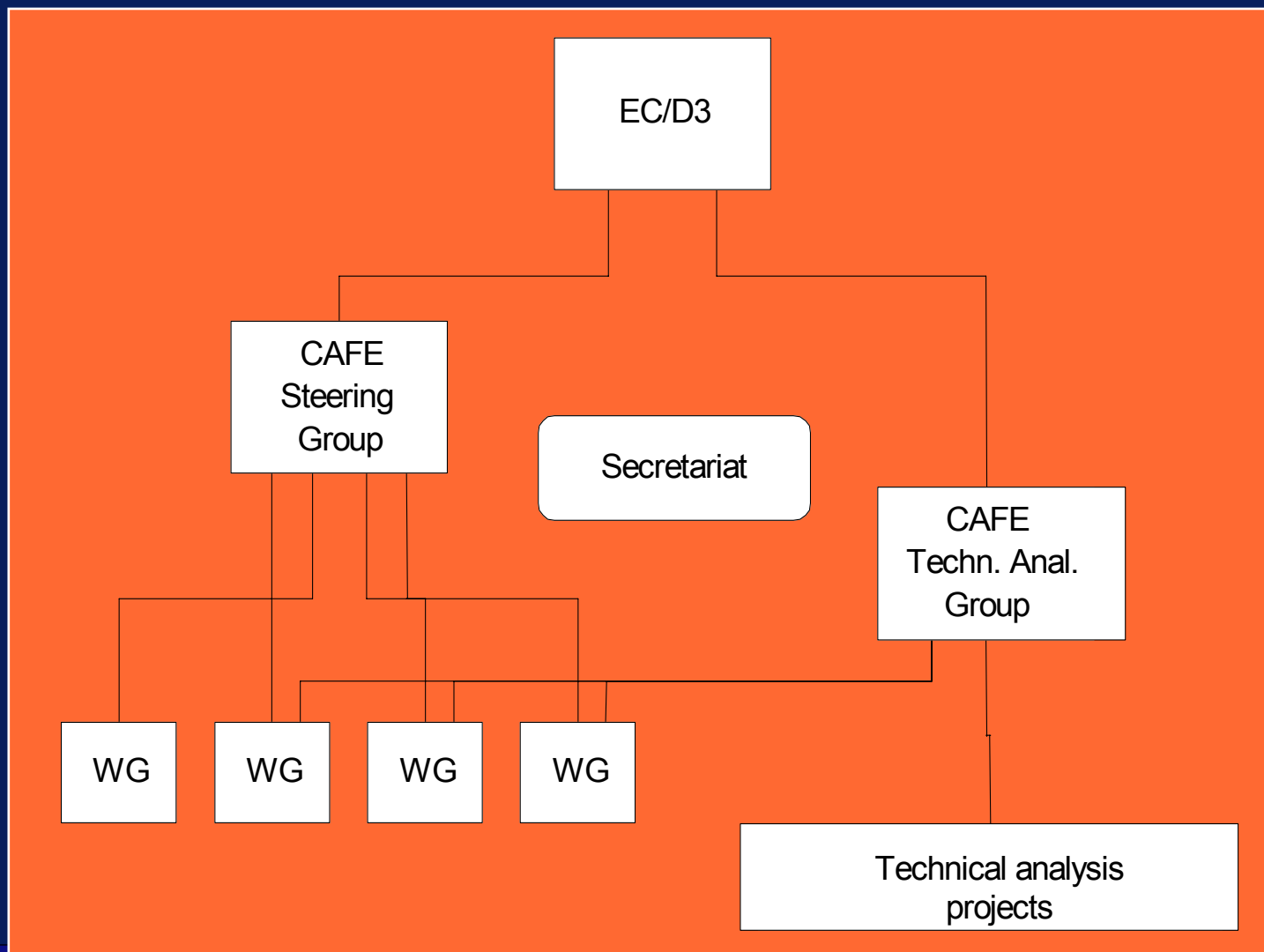
Policy  
preparation

Technical  
analysis

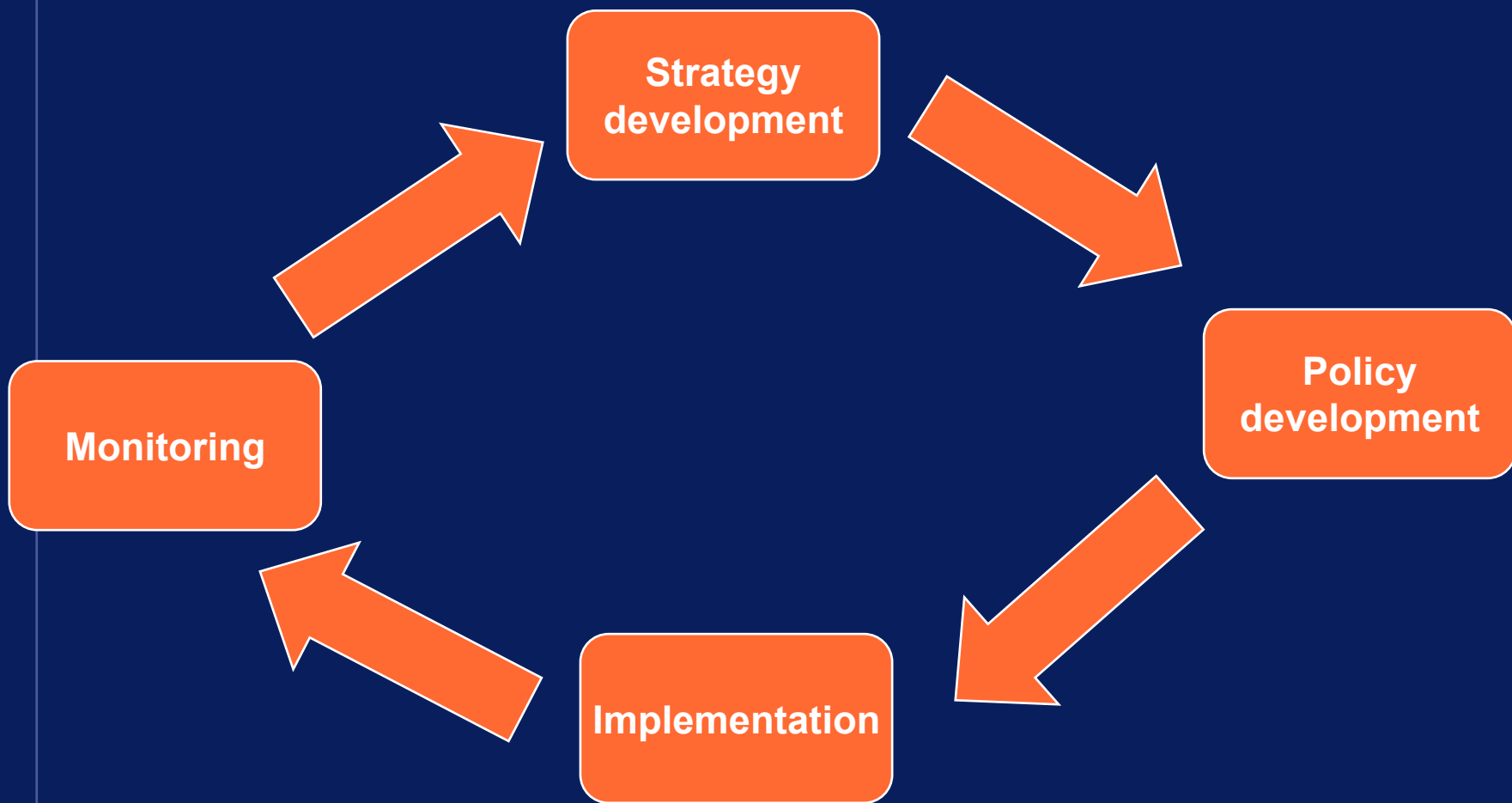
Basic  
research



# Interface body between research and AQ policy making?



# Policy cycle



# Science input to Environment&Health

- On many E&H issues scientific knowledge is insufficient for policy development
- Policy development is being postponed until (explicit list of) research questions have been addressed

# From policy to research

- **During AQ policy development, there was hardly direct feed back to the basic research level**
- **CAFE and E&H have drafted papers on research needs**
- **Consultation of programme officers on development FP call**

**Negotiation**

**Policy preparation**

**Technical analysis**

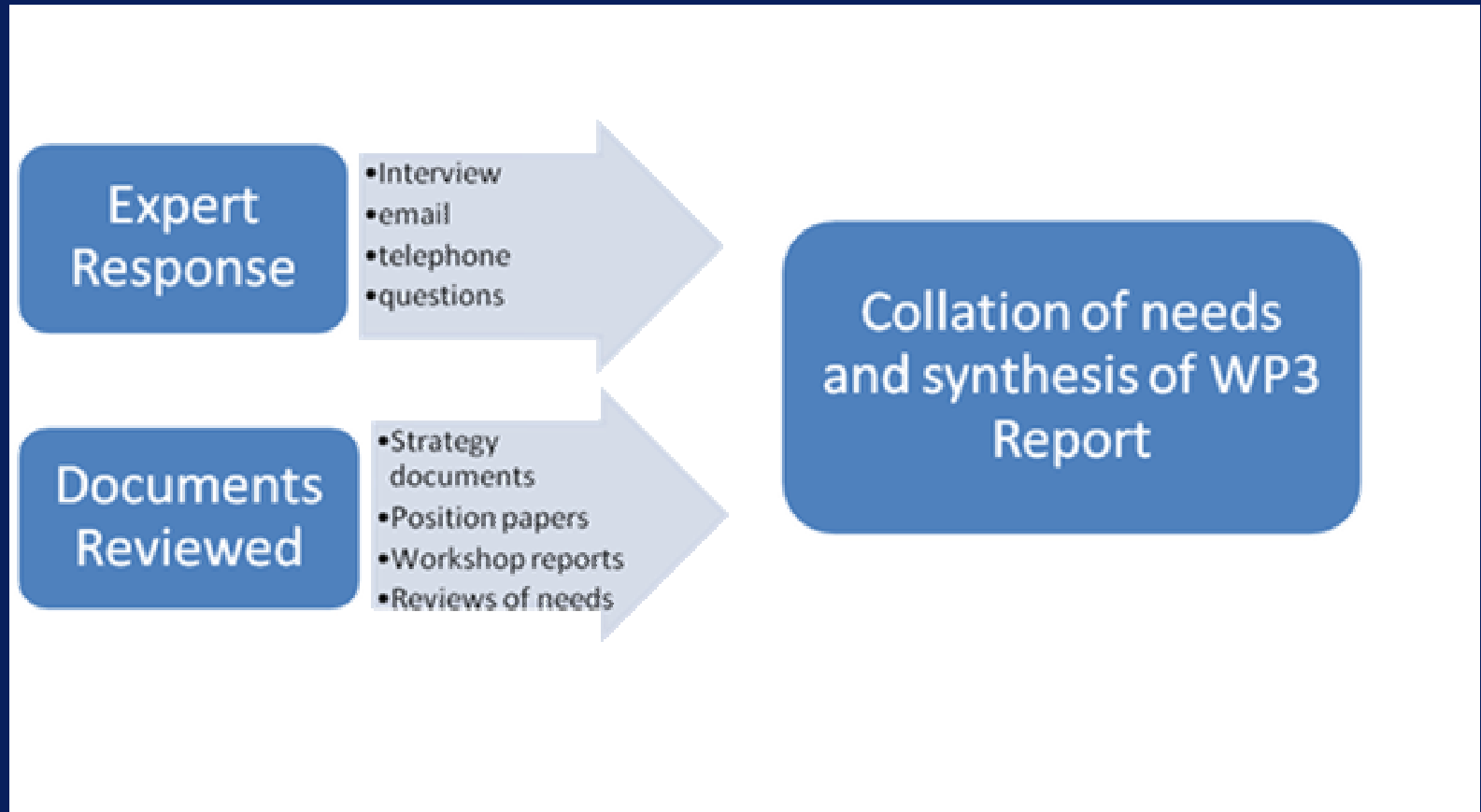
**Basic research**

# **Cair4Health WP3: review of research needs of policy makers and stakeholders : 3 steps**

- 1. Identification of programmes and key stakeholders**
- 2. Collection and collation of stakeholder needs**
- 3. Analysis and synthesis of stakeholder needs**

**Step 2 done by all partners; Step 3 mainly by Jane Newbold and Ranjeet Sokhi (UH), Mtinkheni Gondwe and Dick van den Hout (TNO)**

# Step 2 Collection and collation of stakeholder needs



# Step 3 Analysis and synthesis

- **Grouping of needs:**
  - Per stakeholder group?
  - Per programme?
  - Per research area?
- **Prioritisation of needs:**
  - Needs have been expressed at different abstraction levels
  - Counting occurrences of needs is not suitable
  - Integration with results of next WPs

# Groups of needs (1/3)

## 1. Air Quality and Health Assessment Approaches

- Monitoring/modelling
- Policy and legislation
- Integrated risk assessment and cost benefit

## 2. Pollutant characteristics

- General
- Particulate Matter
- Sources and sinks
- Inventories and databases

## Groups of needs (2/3)

### 3. Exposure characterisation and long-term studies; epidemiology; toxicology

- Long-term studies
- Indoor/outdoor exposure
- Vulnerable groups
- Relationships exposure and ambient measurements

### 4. Environmental Management and Best Practice

- Environmental management
- Best practice and toolkits

# Groups of needs (3/3)

## 5. Environmental Technology

- Exhaust emissions
- Alternative vehicles and fuels
- Transport studies
- Abatement technology and effectiveness
- Measurement techniques

# Key research needs include:

- **More holistic approaches, integrated assessment modelling**
- **PM fractions and health effects**
- **Short&long-term epistudies**
- **Dose-response; vulnerable groups**
- **Harmonisation of assessment; supersites**
- **Emissions such as shipping, aviations, primary NO<sub>2</sub>, non-exhaust PM**
- **Include indoor air**
- **Reliable tools for AQ and health assessment, best practice**
- **Realistic evaluation of impact of changes emission and technology**
- **Effectiveness and cost-effectiveness of measures and policies**