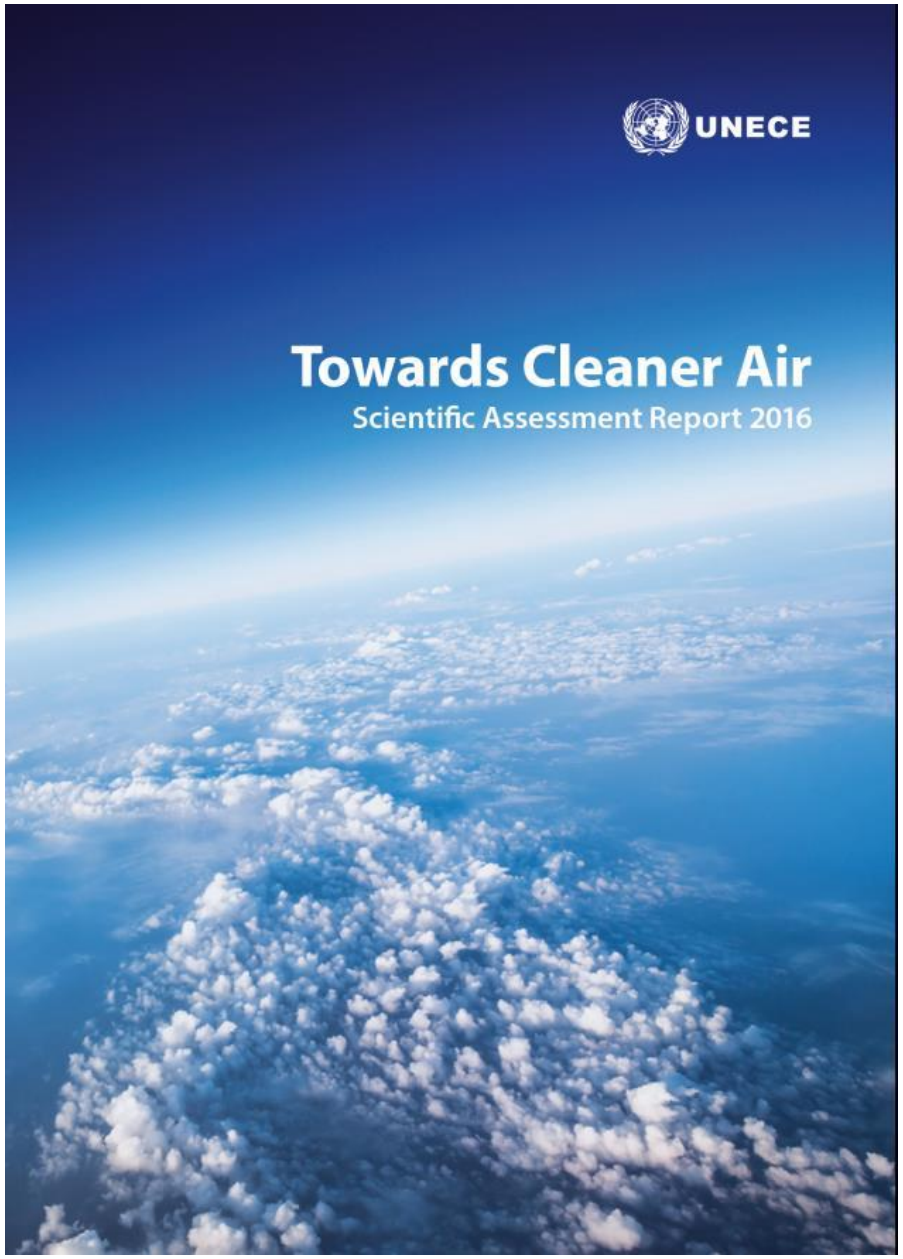


Synergies with TFIAM

Task Force on Integrated Assessment Modelling UNECE Air Convention

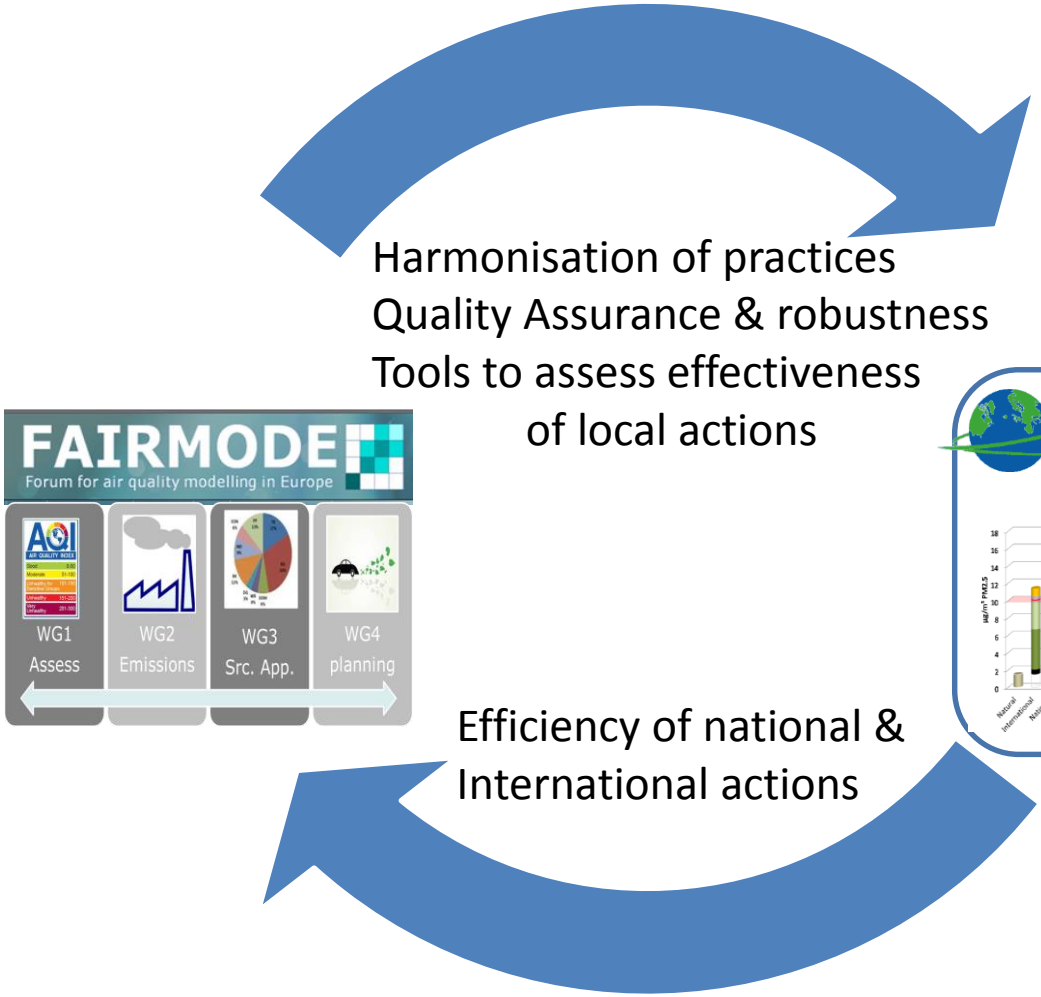
Task:
support international policy making with assesments of costs and benefits of further actions

Rob Maas

FAIRMODE plenary meeting
15 February 2017

http://www.unece.org/env/lrtap/welcome.html

Why a joint TFIAM / FAIRMODE workshop?



Long term strategy

1. Air quality has improved, but still causes damage (even after full implementation of AQLVs and NECD)

2. Further local actions are important, but probably insufficient to meet long term protection targets (EAP7)

3. Additional international actions remain required especially to reduce secondary PM and N-deposition → *ammonia*

4. Ozone reduction requires Northern Hemispheric action → including *methane*

5. Agriculture, shipping & residential heating require more attention

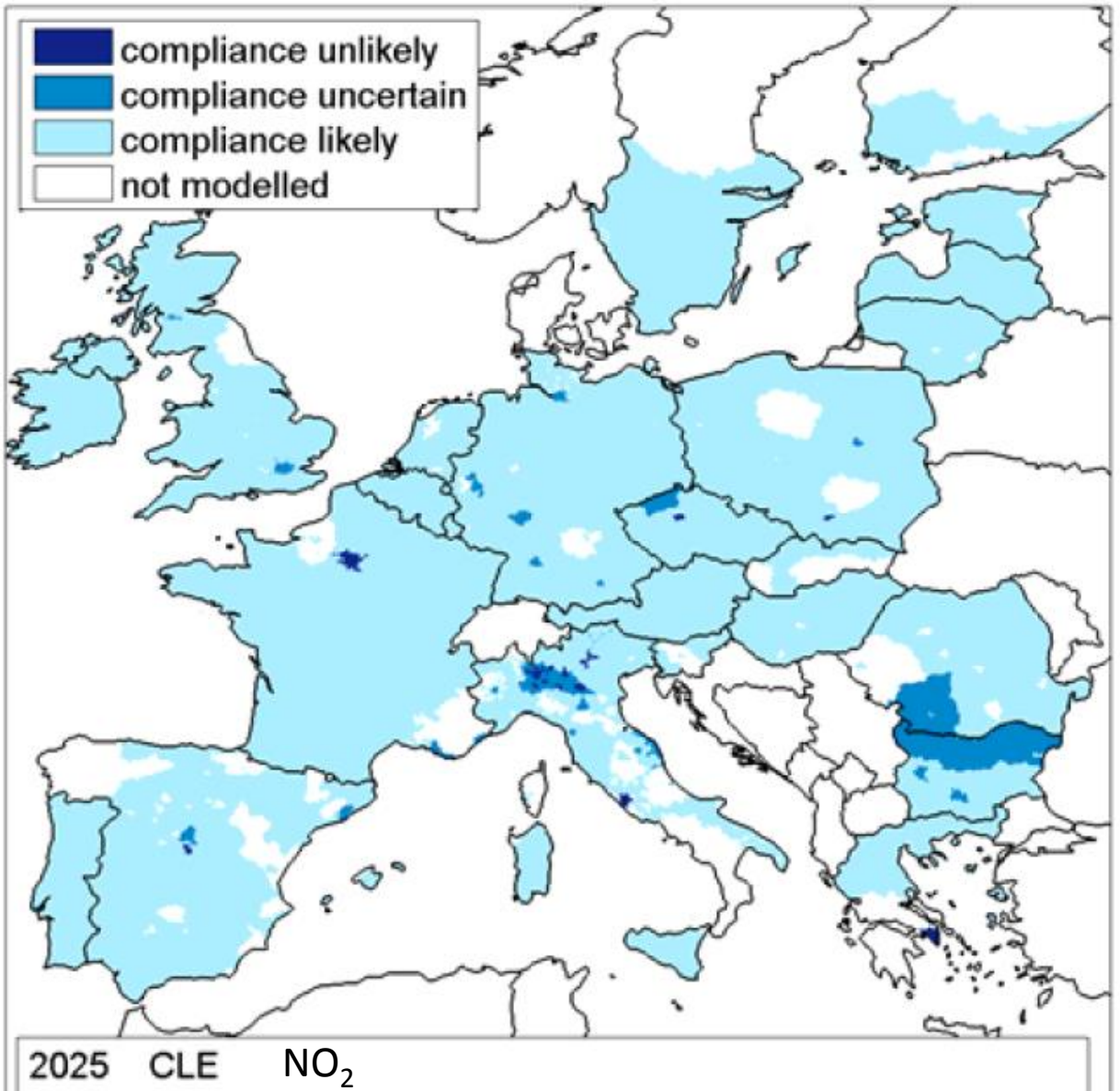
Burning questions for FAIRMODE and TFIAM

1. Which tools are available to assess the health benefits of local/regional measures?

2. How cost-effective are local/regional measures compared to additional national/European measures?

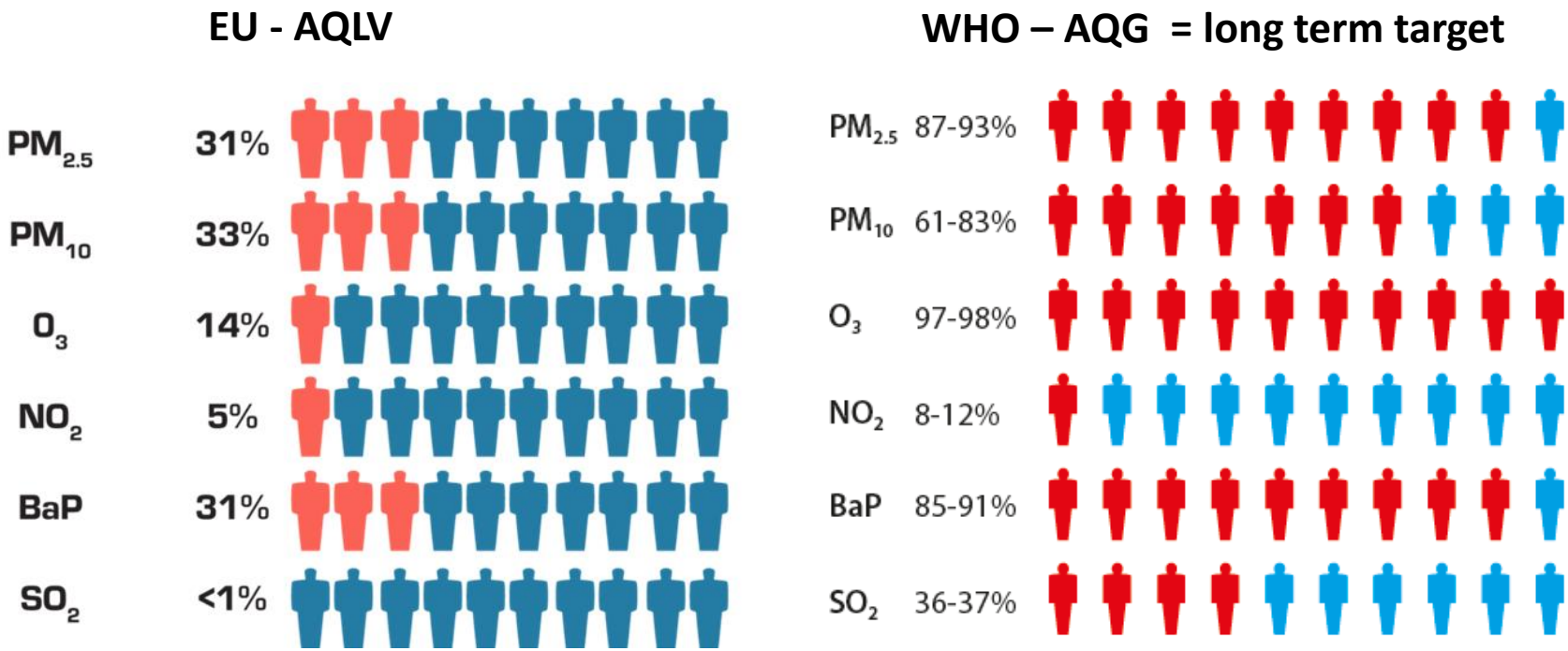
3. What are the opportunities and barriers for a multi-level approach? How to define an optimal strategy “from local to global scale”?

Focus on hotspots:
the NECD will not guarantee AQLVs everywhere



Source: IIASA

Focus on health: majority of EU-population is exposed to concentrations above WHO guideline levels



Source: EEA

Policy shift from a focus on exceedances (hotspots) towards optimizing health benefits?

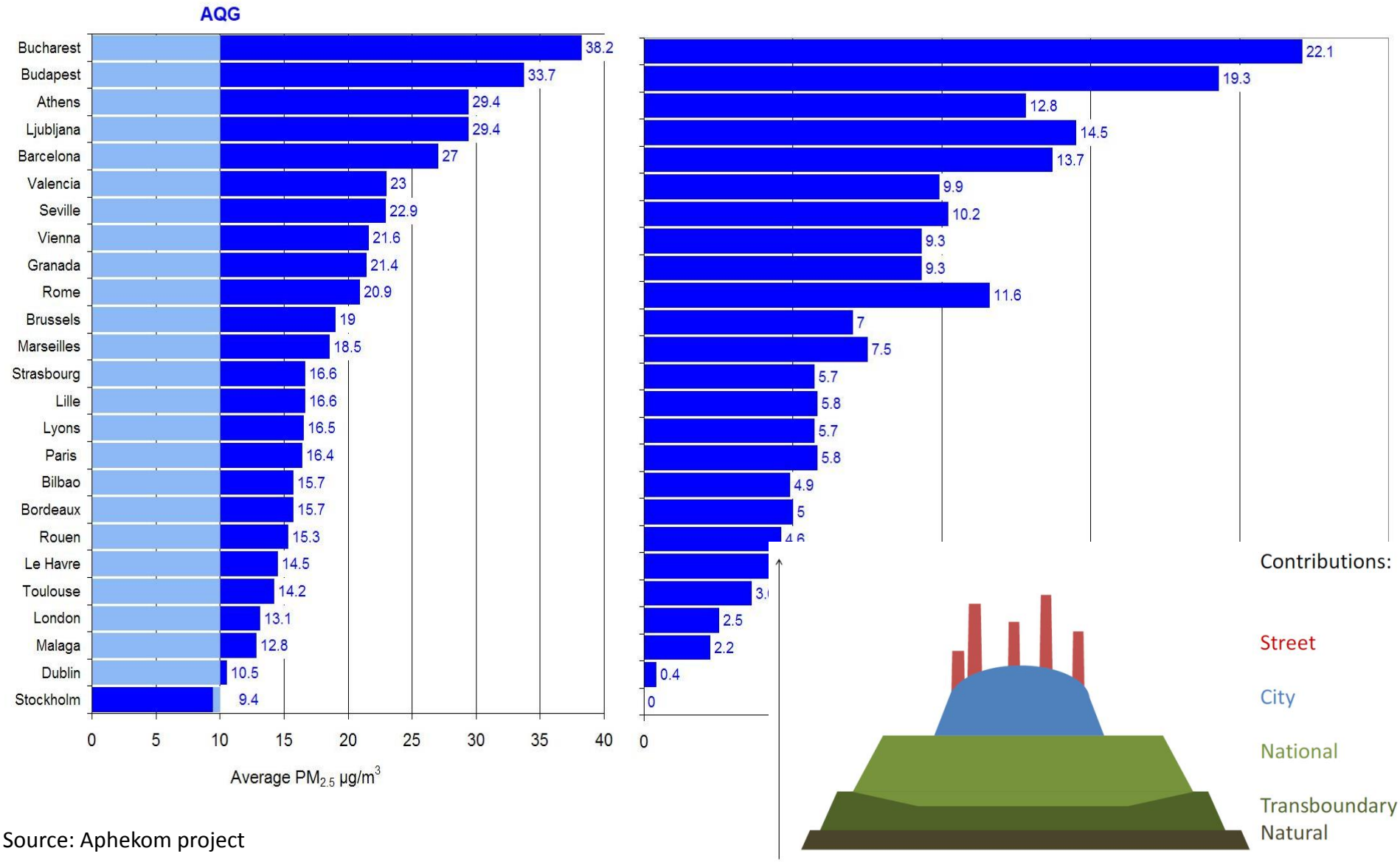
REVISED GOTHENBURG PROTOCOL & NECD:

Loss in average life expectancy due to PM-exposure - in months

(source IIASA)

	2005	2030-NECD	2030-opt	2030-mfr
Belgium	10.2	5.9	5.0	4.5
Denmark	6.4	3.5	3.0	2.7
France	8.8	4.4	3.8	3.2
Germany	7.9	4.8	4.0	3.6
Luxemburg	9.2	5.2	4.4	3.9
Netherlands	8.8	5.0	4.3	4.0
UK	5.8	3.7	2.9	2.6
EU-28	8.5	5.0	4.1	3.6

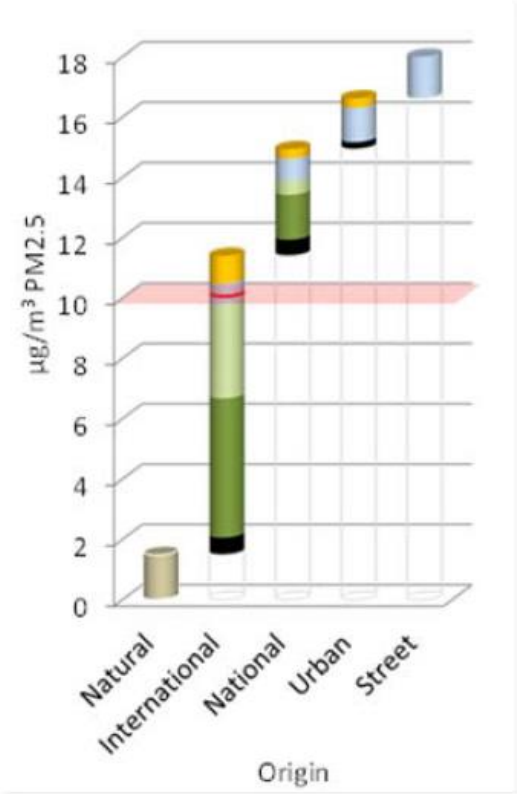
Significant potential for health improvement



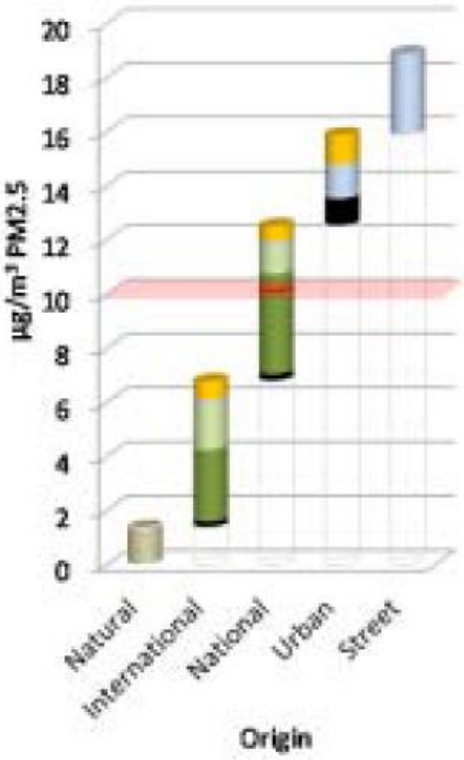
Source: Aphekom project

Local measures alone will often be insufficient to meet WHO guideline levels

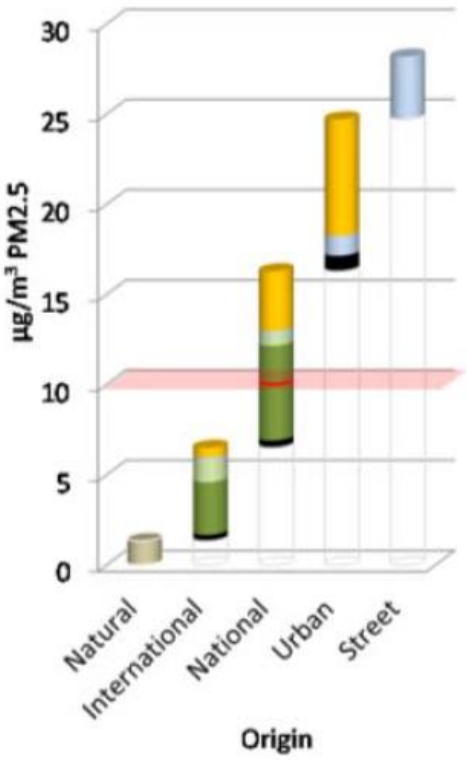
Netherlands



Germany

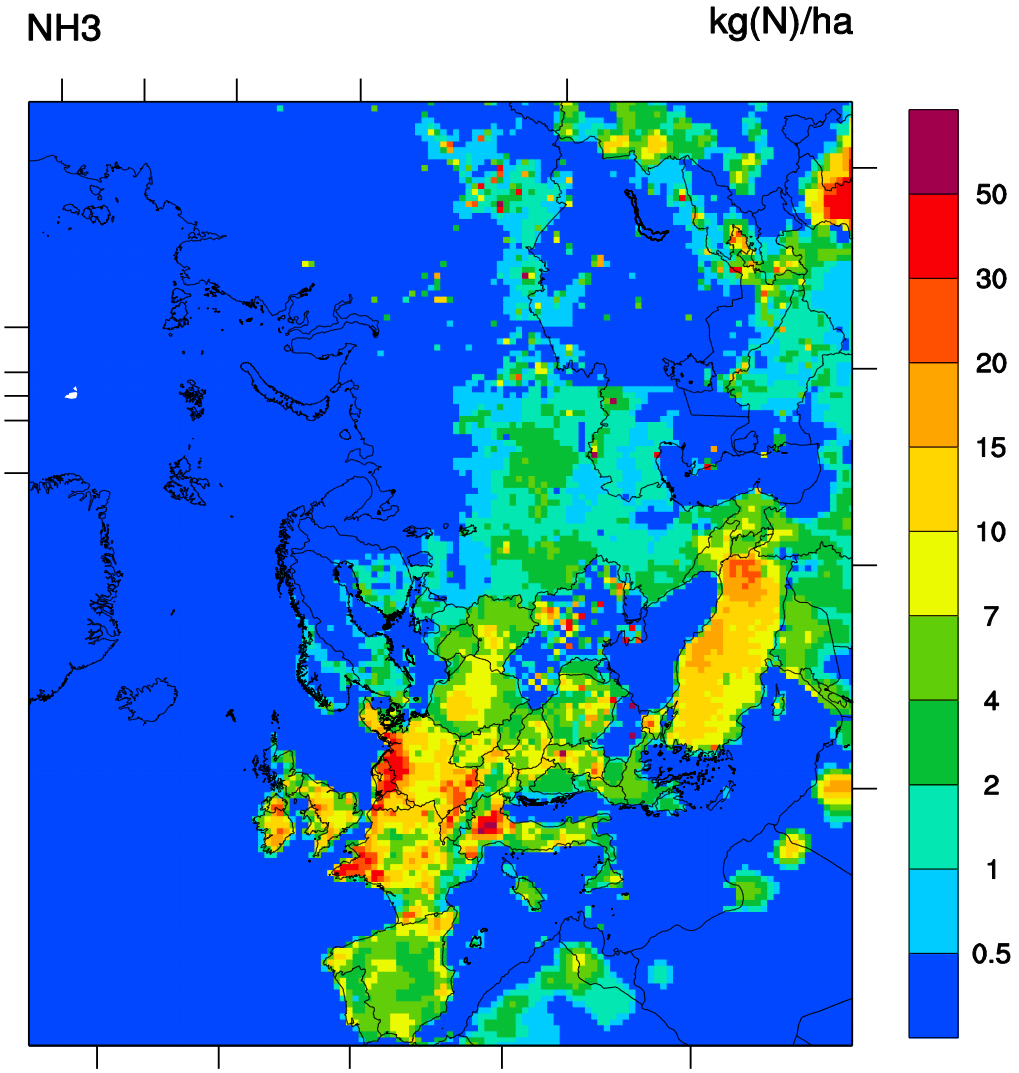


Poland



Source: IIASA, TSAP-report #12

Ammonia is a transboundary issue



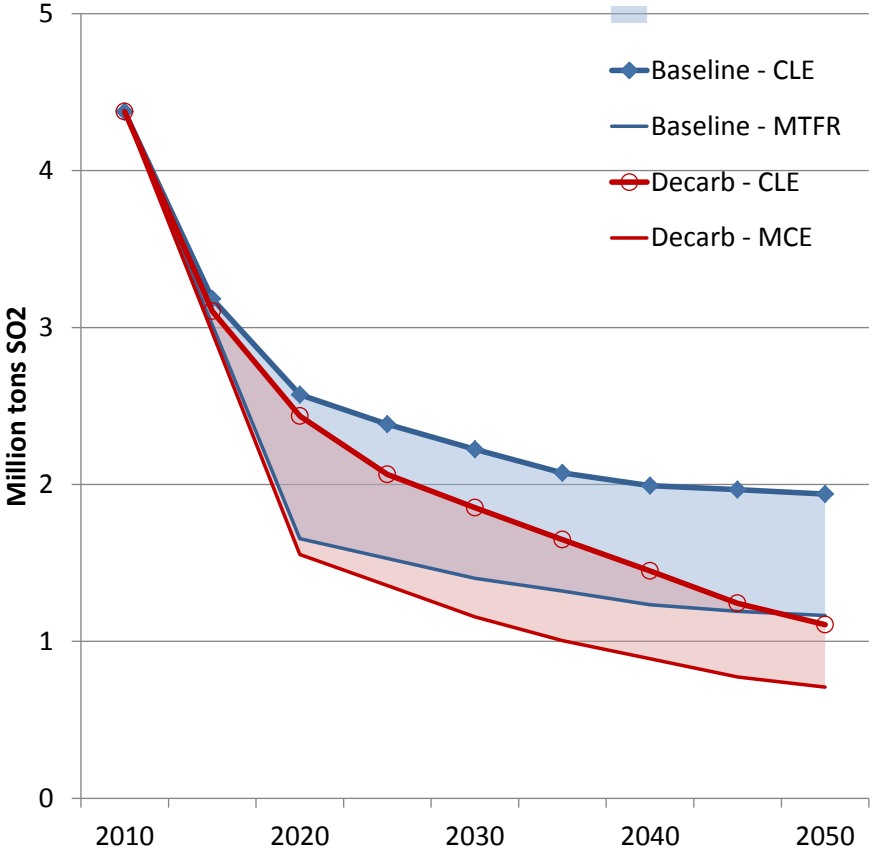
NH3 emissions in 2013 (EMEP)

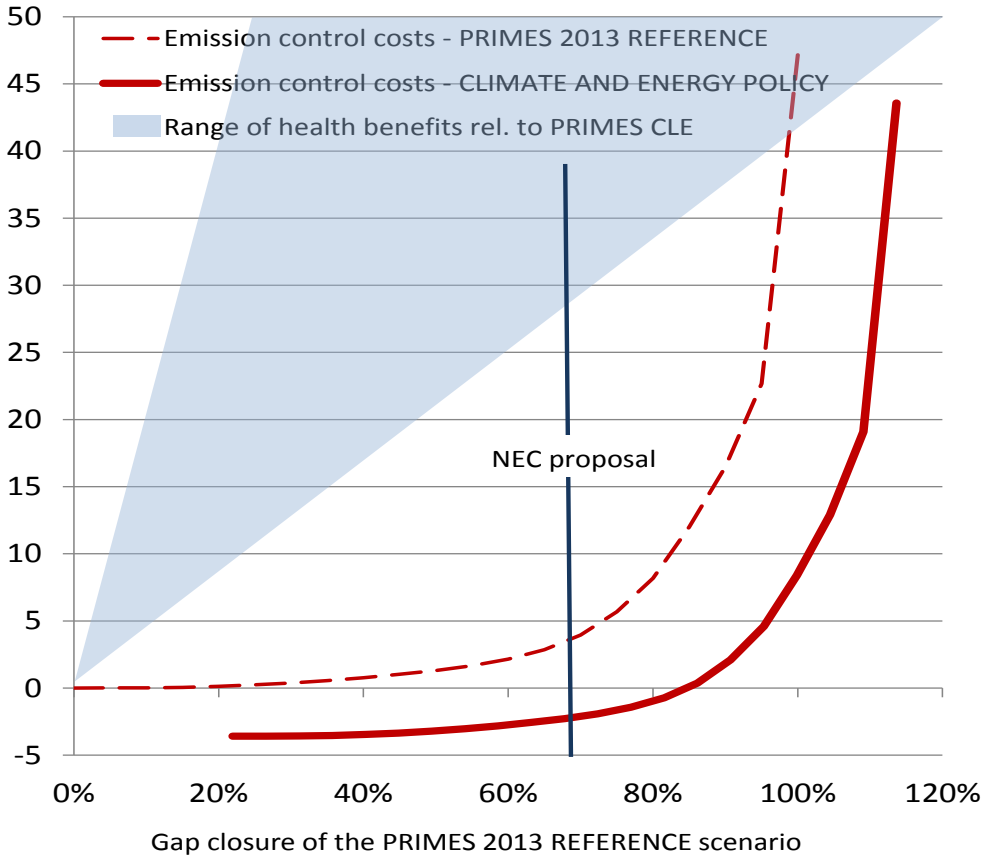
REVISED GOTHENBURG PROTOCOL & NECD

Ammonia emission reductions NECD (5-7-2016) and abatement potential (IIASA)

	NH3 emission		reduction percentages			
	level 2005	2012	2020-2029	2030-NECD	2030-opt	2030-mfr
Belgium	73	1	2	13	16	19
Denmark	73	13	24	24	37	47
France	675	1	4	13	29	37
Germany	593	5	5	29	39	50
Luxemburg	6	0	1	22	24	27
Netherlands	146	13	13	21	25	25
United Kingdom	308	8	8	16	21	22
EU-28	3982	6	6	19	27	35

Synergy: air and climate policy



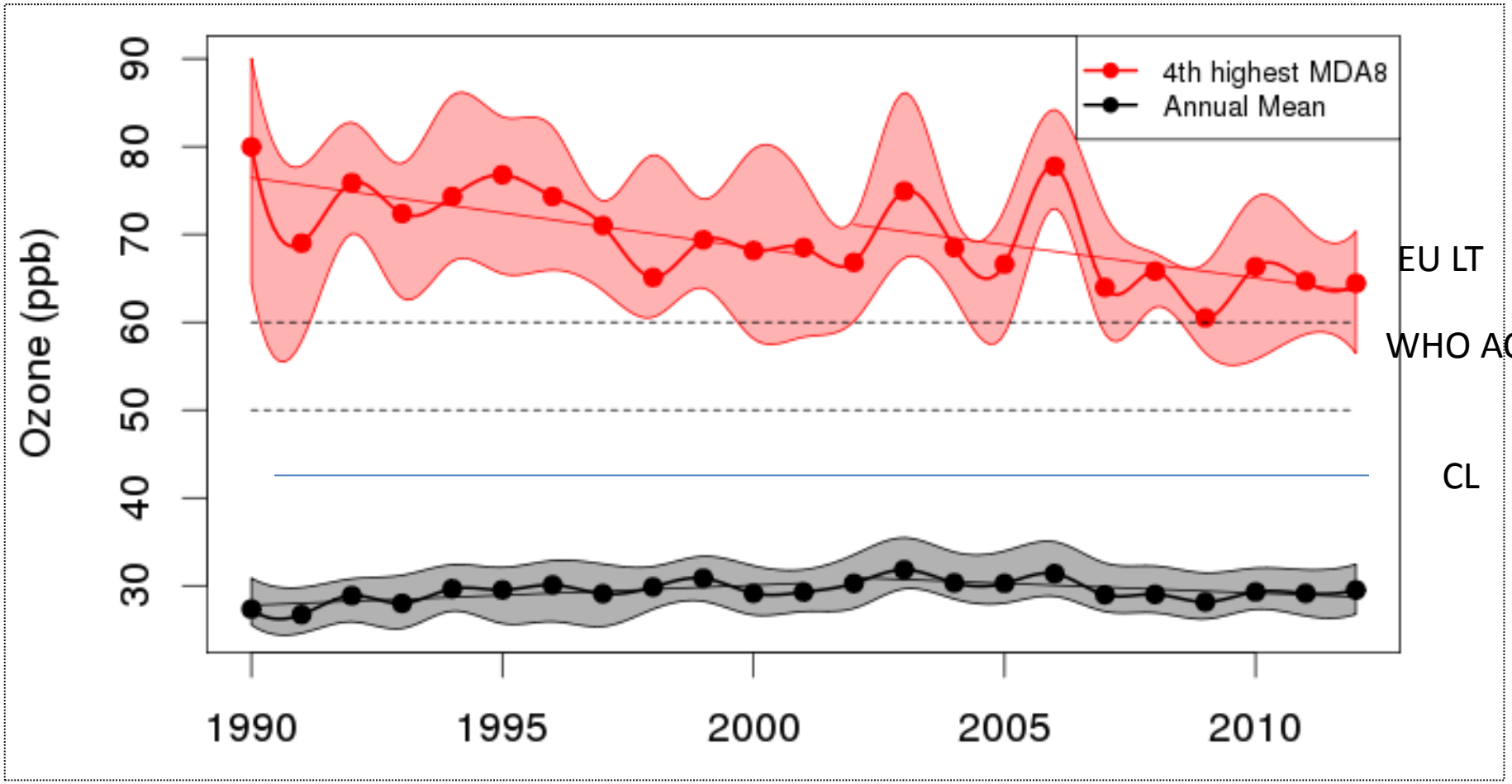


15-20% higher reduction potential
for SO2, NOx , VOC and PM2.5

Substantial lower contol costs:
80% gap closure without net costs

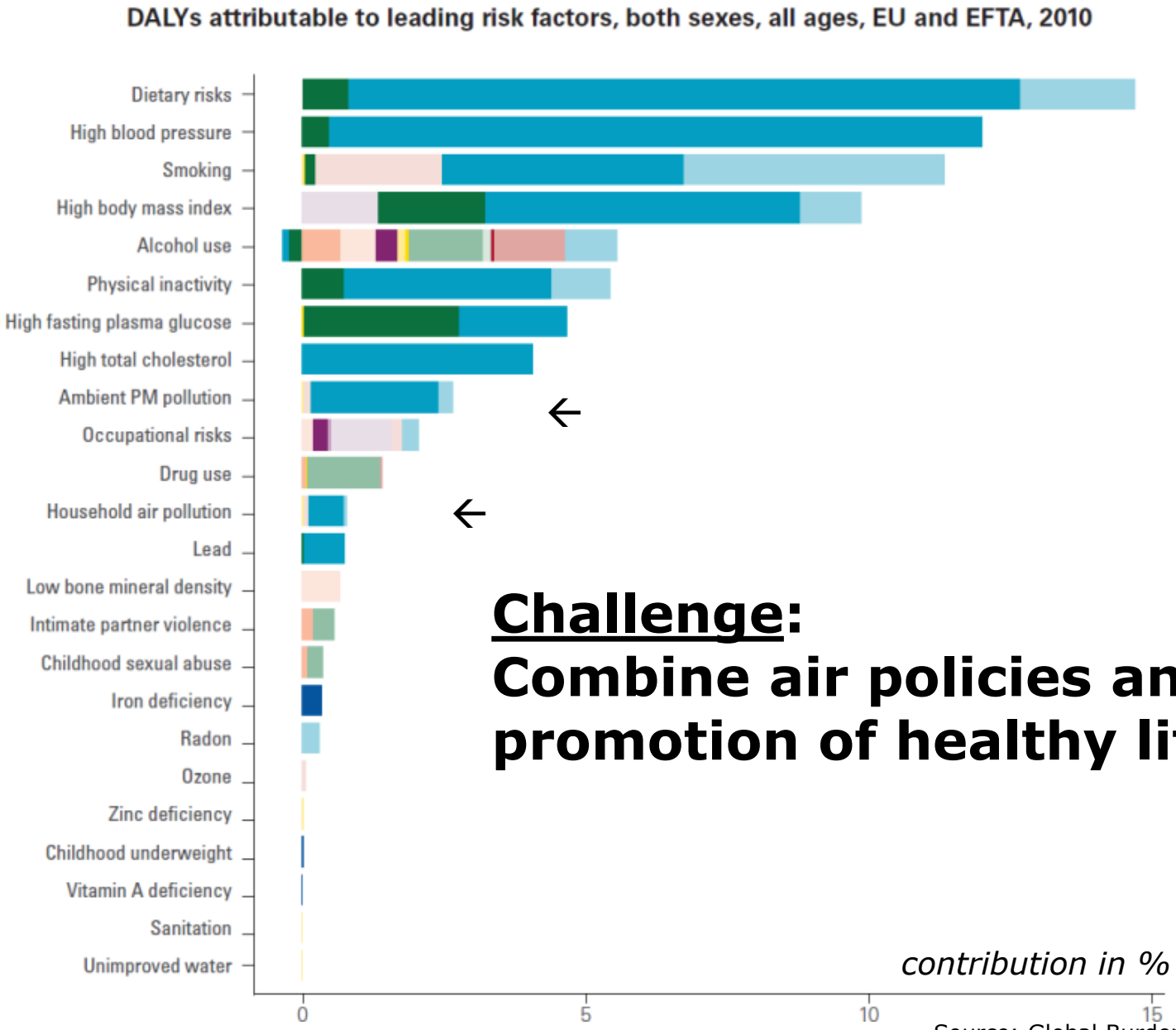
Synergy: methane & ozone

Lower ozonepeaks, but no decline in mean exposure



Health damage at low concentrations, damage to crops and forest (CO_2-uptake)

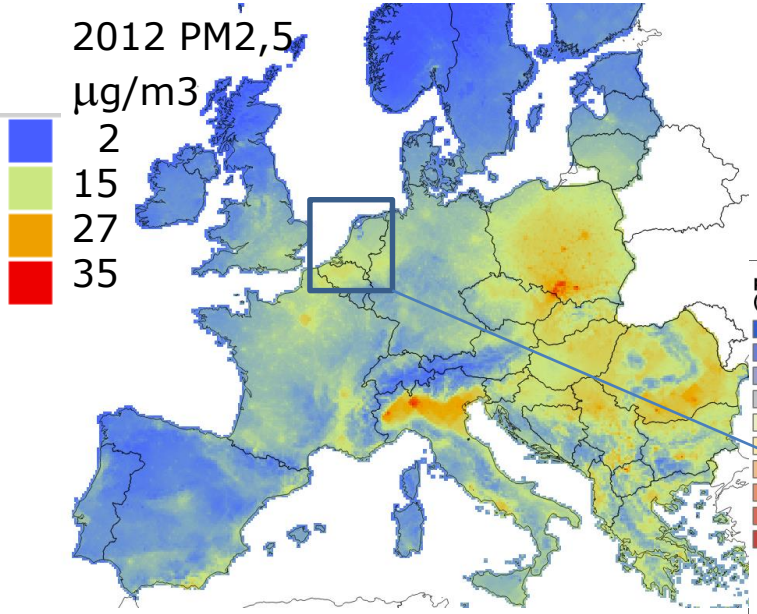
Synergy : air and health policy



<u>Challenge</u>:
Combine air policies and promotion of healthy life styles

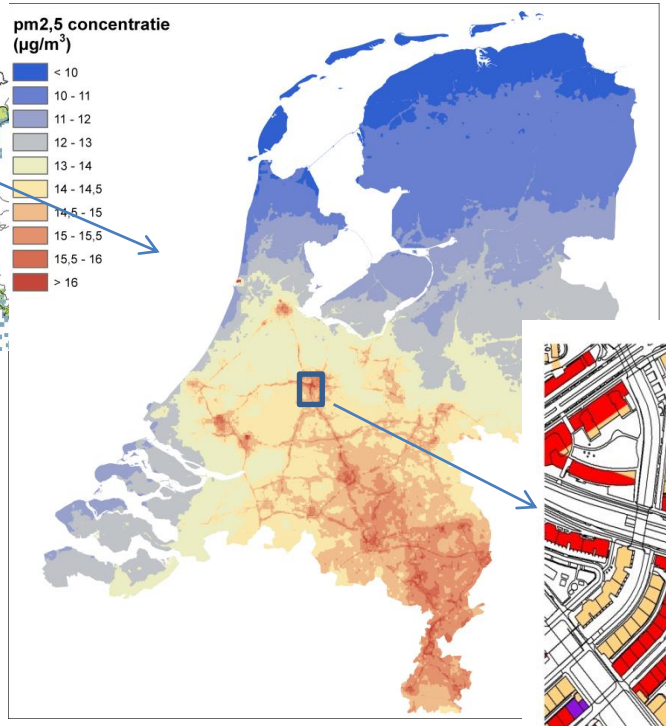
Source: Global Burden of Disease Database

Coherent multilevel strategies for healthy urban living



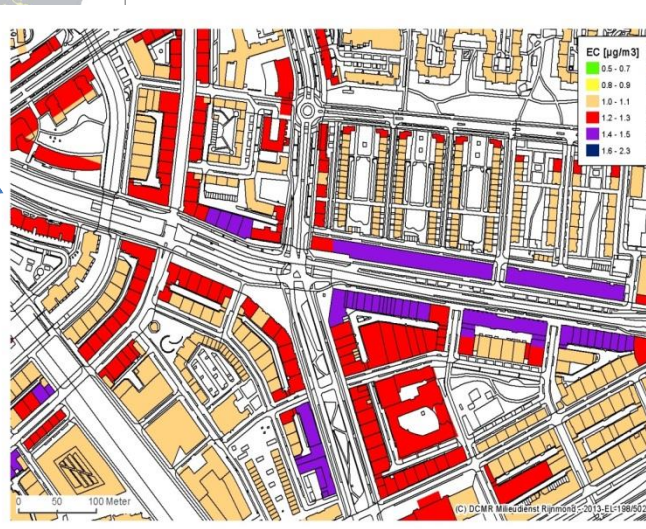
National instruments:

e.g. taxes and subsidies
infrastructure



Local instruments:

permits, projects
low emission zones



EU instruments:

National emission ceilings
Emission standards