Rijksinstituut voor Volksgezondheid
en Milieu
*Ministerie van Volksgezondheid,
Welzijn en Sport*

Dutch AQ policy:

- Clean Air Agreement
- Feasibility WHO guidelines 2021

TFIAM 51, 04.06-04.08 2022

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Introduction

Clean Air Agreement:

Agreement National, Regional and Local Government (2020)

Main aims:

- Reduce Health Impacts (Life Expectancy Loss, Years of Life Lost)
- Bring WHO AQ guidelines within reach

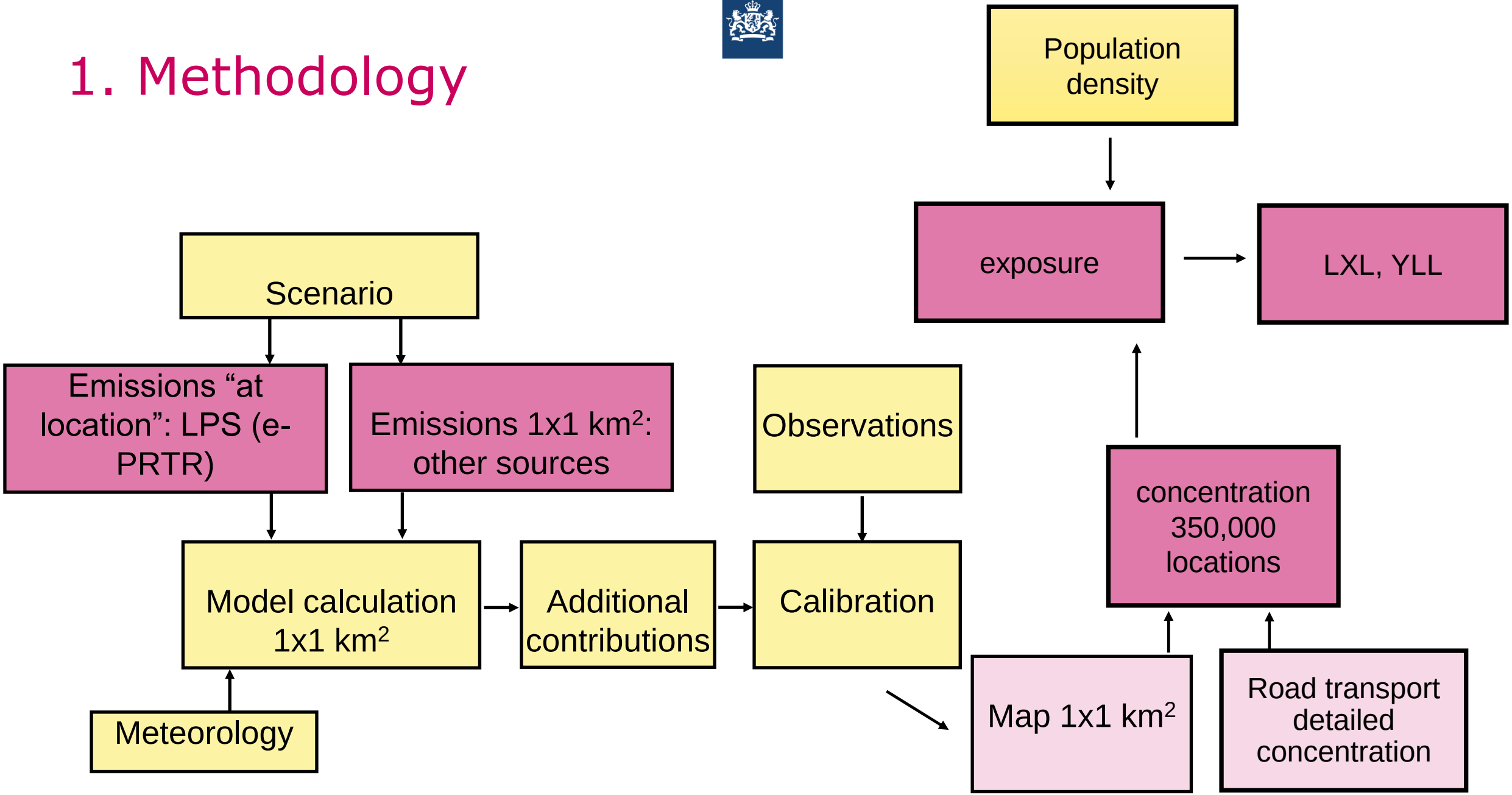
Health Impact Assessment RIVM 2021:

- local, regional and national policy plans (scenario's)
- Health impacts reduced in 2030?
- (new) WHO guidelines feasible in 2030 ?

Agenda for this presentation:

- Methodology: “health impact indicator”
- Results RIVM assessment
- WHO guidelines 2021 feasible?

1. Methodology



1. Methodology

- ***Emissions:*** NL PRTR, 1*1 km and point sources
- ***Concentrations:*** OPS Lagrangian concentration and deposition model for NO2 and PM10 (plus EMEP model for OC)
- ***Health Impacts:*** based on DUELS cohort study, Fischer et al. (2015) http://dx.doi.org/10.1289/ehp.1408254
  - PM10 and NO2
  - Combined exposure (*rr* 1.02 for NO2 and 1.04 for PM10)
  - 2030 compared to 2016

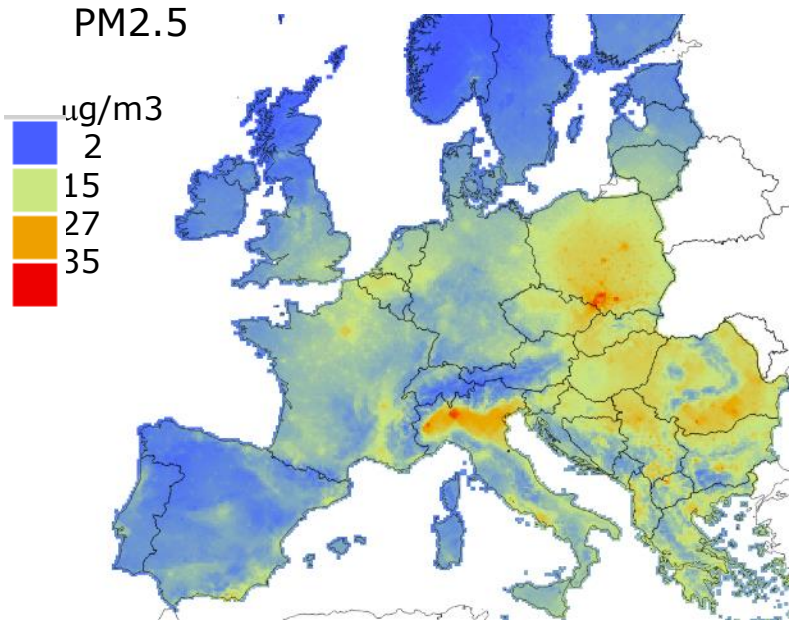
2. Results

3 Scenario's:

- ***With measures 2030***
  Based on Climate and Energy, Nitrogen, AQ policy, already implemented
- ***With additional measures (including CAA additional plans) 2030***
  Based on Climate and Energy, Nitrogen, AQ policy, to be implemented
- ***(Illustrative scenario, Climate and Energy & Nitrogen policy 2030)***
  Policies to be further elaborated. Indicative, no spatial distribution

Multi level…

contribution *50%* *30%* *20%*

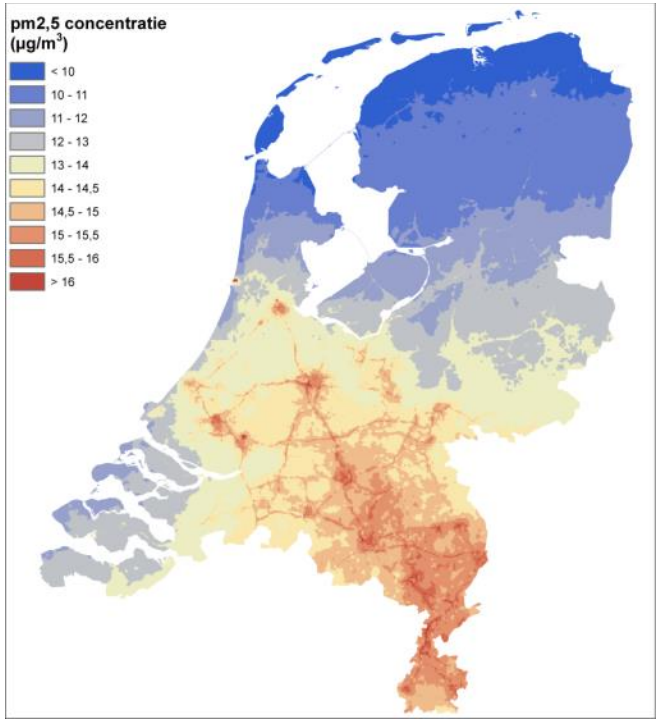


EU-policies

- NECD
- Emission standards
- Agri policy

National policies

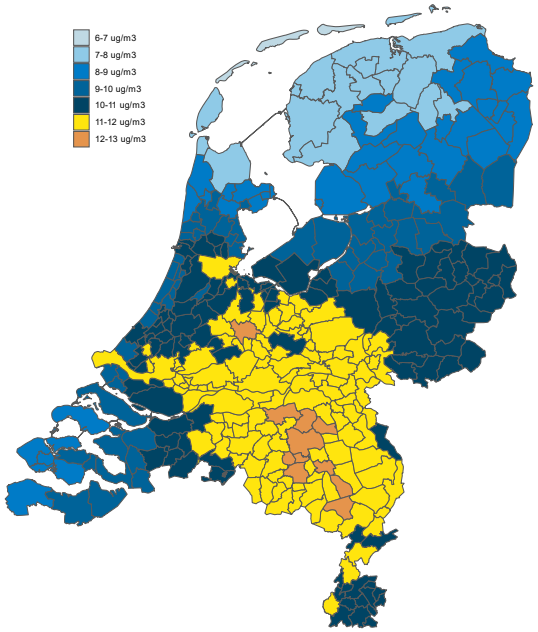
- Taxes, subsidies
- Energy, road transport, N-policy

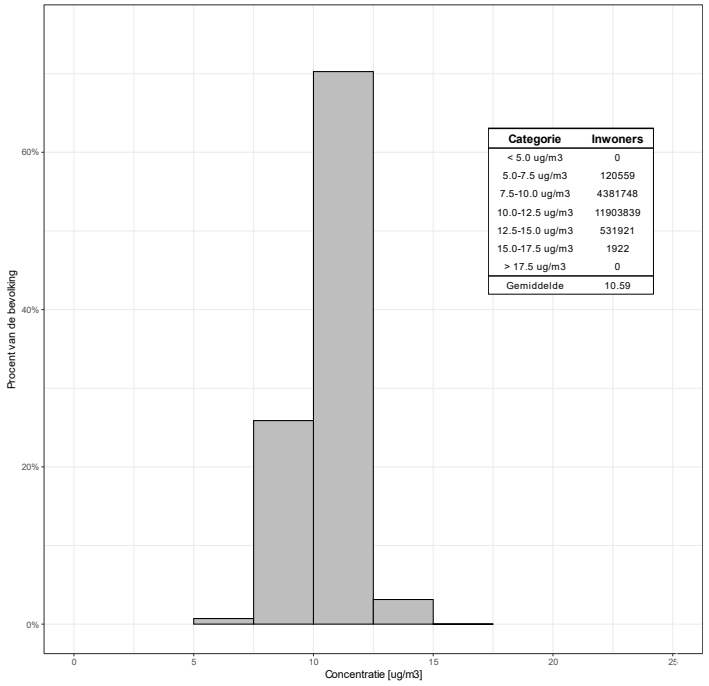


Local policies

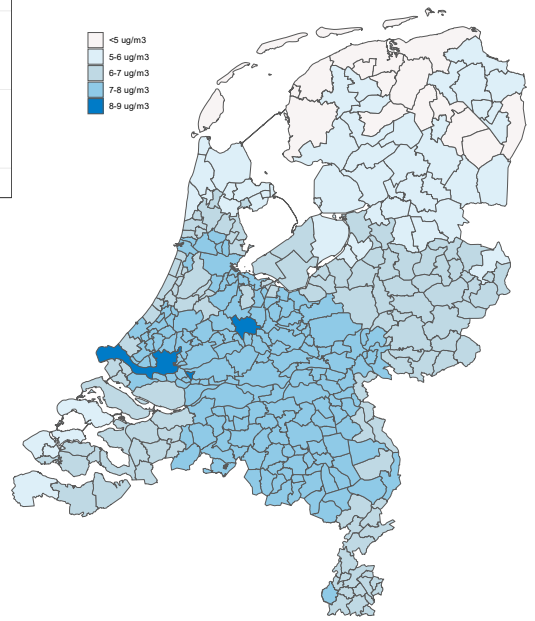
- Licences
- LEZ
- infrastructure

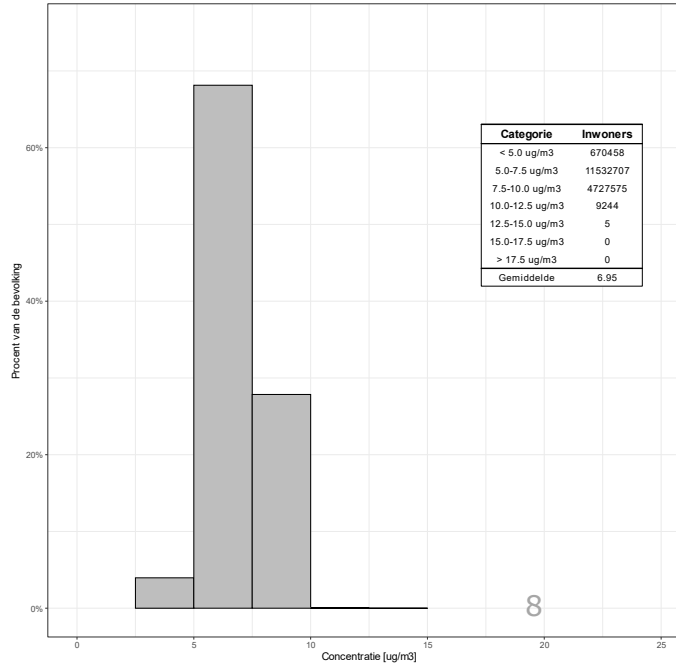
Population exposure PM2.5 (municipality)





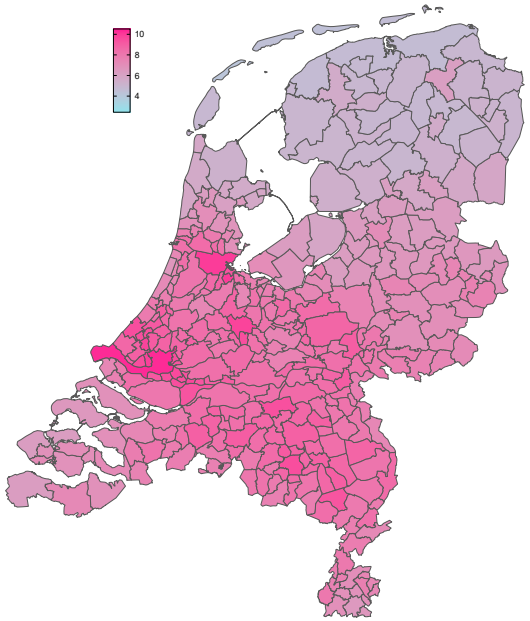
Categorie	Inwoners
< 5.0 ug/m3	0
5.0-7.5 ug/m3	120559
7.5-10.0 ug/m3	4381748
10.0-12.5 ug/m3	11903839
12.5-15.0 ug/m3	531921
15.0-17.5 ug/m3	1922
> 17.5 ug/m3	0
Gemiddelde	10.59

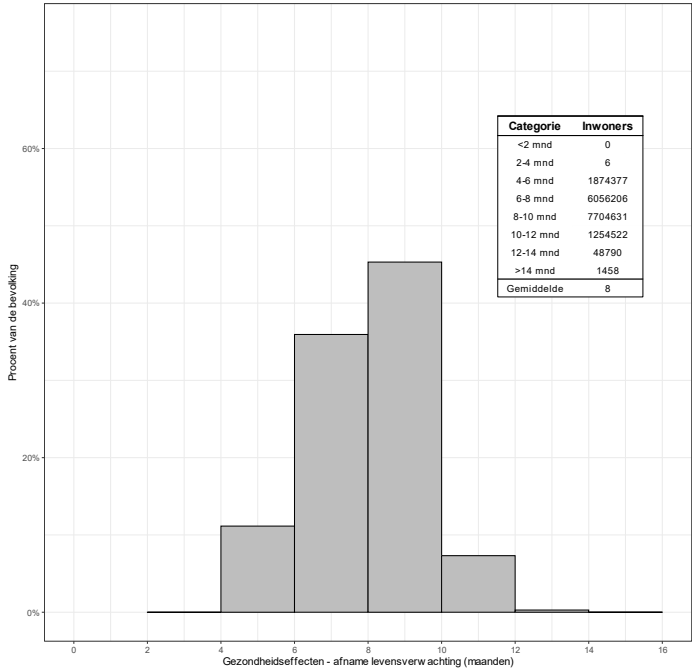




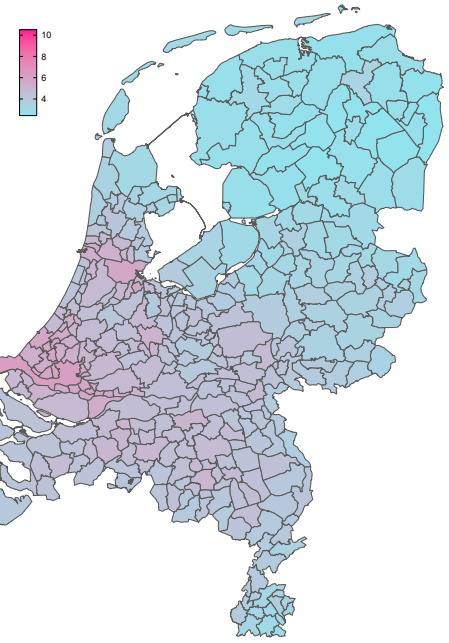
Categorie	Inwoners
< 5.0 ug/m3	670458
5.0-7.5 ug/m3	11532707
7.5-10.0 ug/m3	4727575
10.0-12.5 ug/m3	9244
12.5-15.0 ug/m3	5
15.0-17.5 ug/m3	0
> 17.5 ug/m3	0
Gemiddelde	6.95

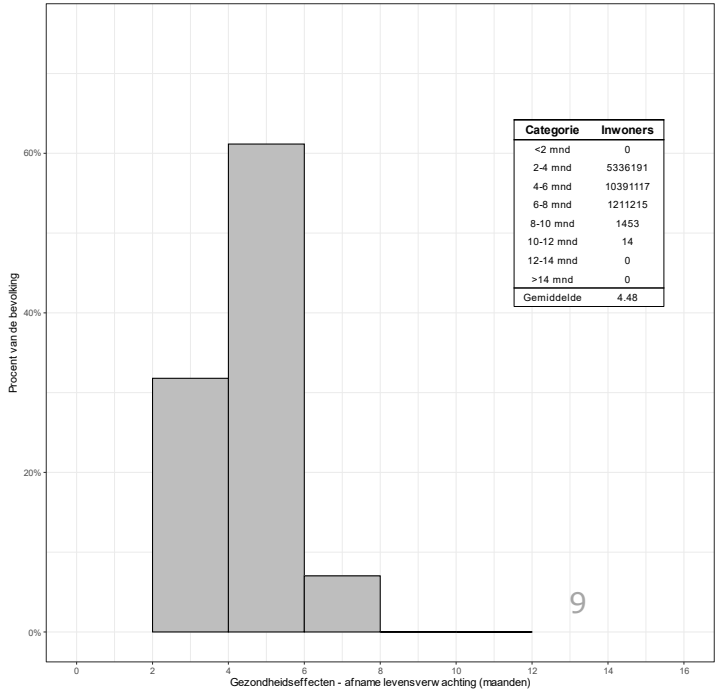
Life eXpectancy Loss (LXL) 2016 - 2030





Categorie	Inwoners
<2 mnd	0
2-4 mnd	6
4-6 mnd	1874377
6-8 mnd	6056206
8-10 mnd	7704631
10-12 mnd	1254522
12-14 mnd	48790
>14 mnd	1458
Gemiddelde	8





Categorie	Inwoners
<2 mnd	0
2-4 mnd	5336191
4-6 mnd	10391117
6-8 mnd	1211215
8-10 mnd	1453
10-12 mnd	14
12-14 mnd	0
>14 mnd	0
Gemiddelde	4.48

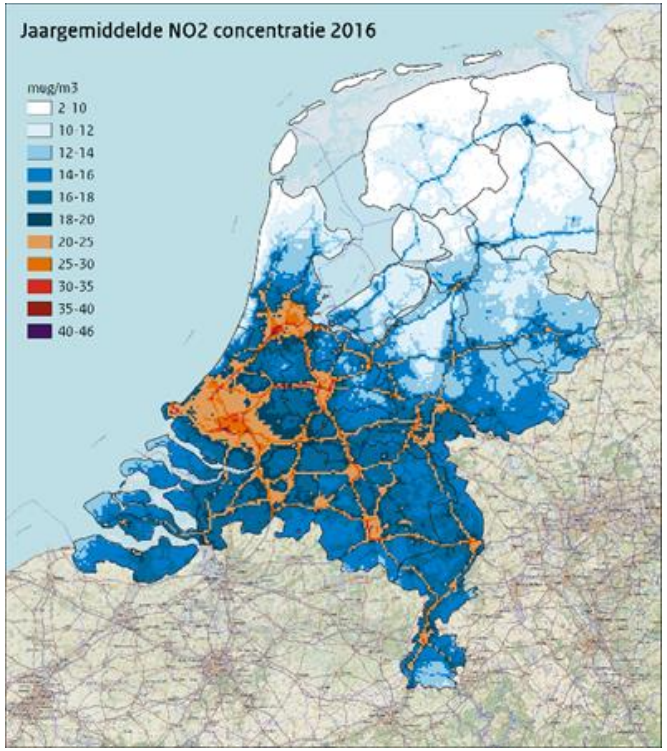
3. WHO guidelines feasible?

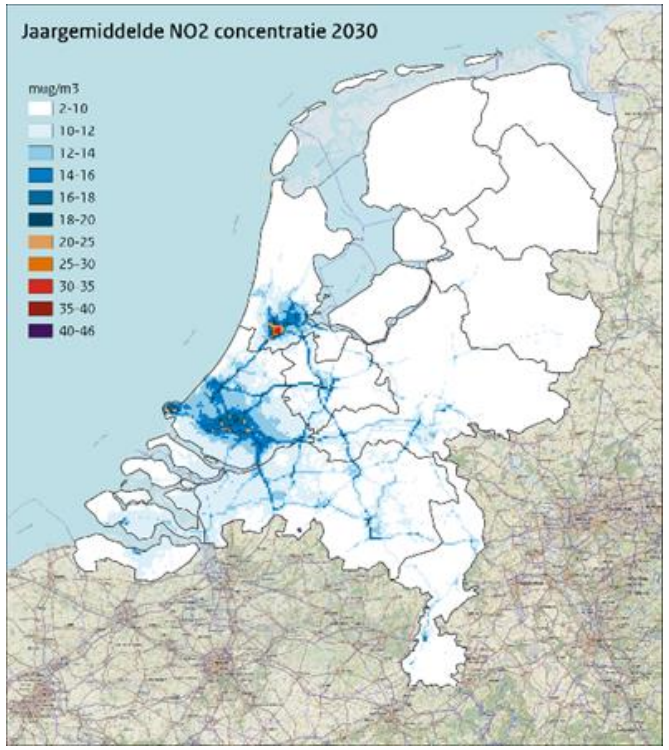
WHO-guidelines and potential interimtargets 2030

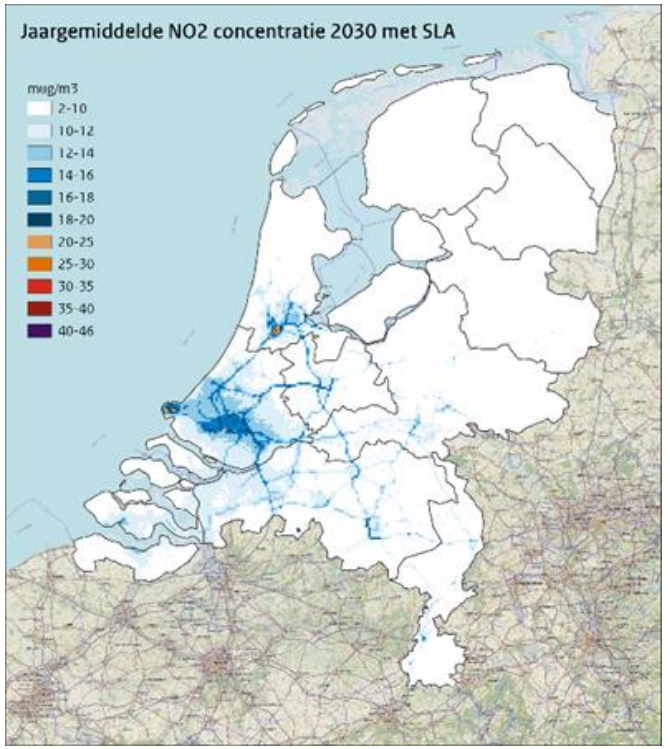
	AQLV	IT1	IT2	IT3	IT4	AQG
PM2.5	25	35	25	15	10	5
PM10	40	70	50	30	20	15
NO_2	40	40	30	20	(20)	10
Ozone - 8-hour	120	160	120	.	.	100

EC: *Base* *Low* *Medium* *High* ambition

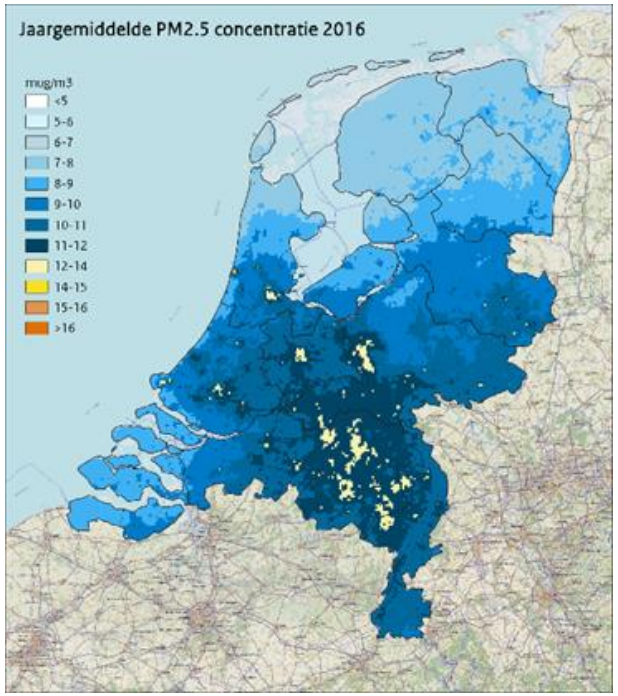
3. Feasibility WHO guidelines – scenario's NO_2

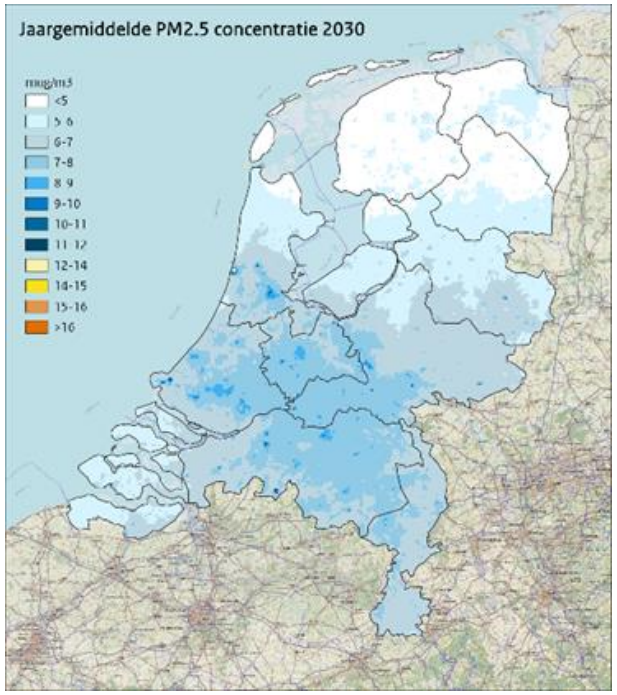


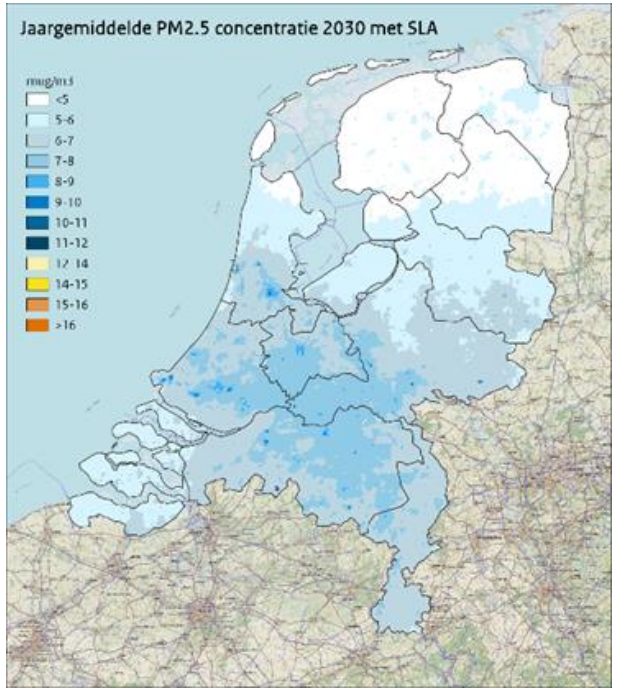




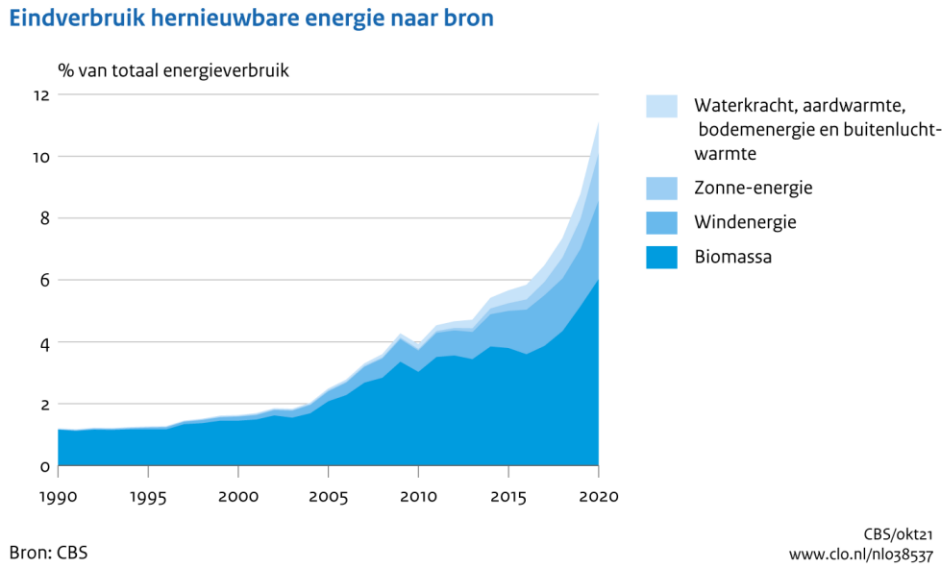
3. Feasibility WHO guidelines – scenario's PM2.5







3. Feasibility WHO guidelines



- IT4(/IT3) in range for PM10, PM2.5 & NO2

- AQG further assessed:
  - Climate Policy (-55%)
  - N-policy (-50% NH3 and NOx)

  Climate/energy policy may lead to additional PM and NOx (CCS, hydrogen, biomass).

  Stringent policies: ban on heat-stoves? Lower animal densities? All electric road transport? Strongly enhance renewable energy,…

  Support base >> 2040/2050