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Non Technical and local measures

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History

Review of the RAINS-model (2004):

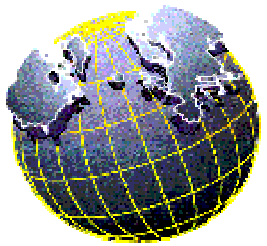
‘There is a bias towards technical (end of pipe) measures’

CAFE-discussion (2004):

‘Subsidiarity’: the cost-effective balance between additional EU-wide measures and additional local & national measures

‘Integration’: coherence with EU-policy for agriculture, traffic and energy

Goals of the workshop



- Formulate a list of potential non-technical and local measures
- Assess the effectiveness of these measures
- Assess the cost-effectiveness of these measures in attaining environmental objectives as compared to additional European wide technical measures

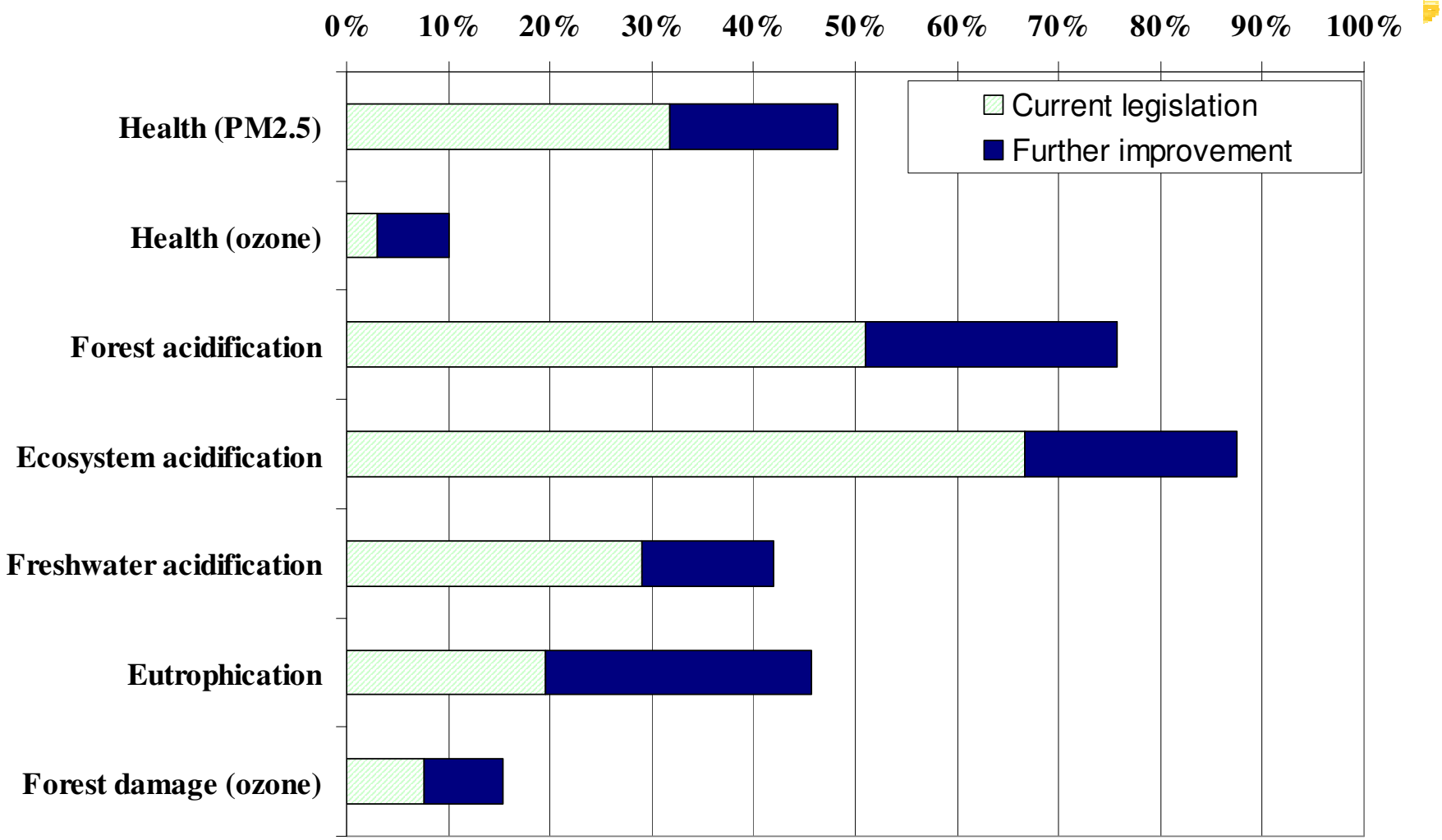
How to calculate the costs of non-technical measures?

How to include non-technical & local measures in IAMs?

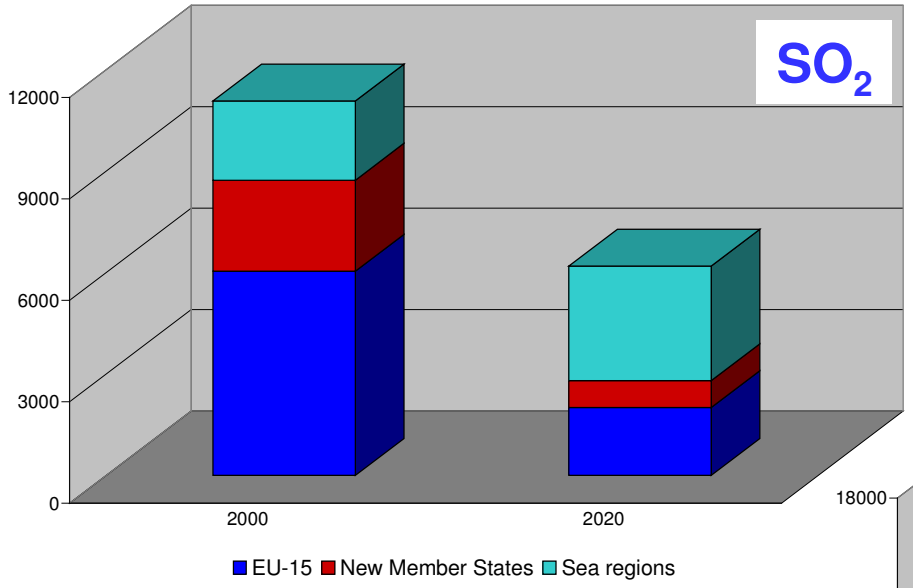
Objectives of the CAFE strategy

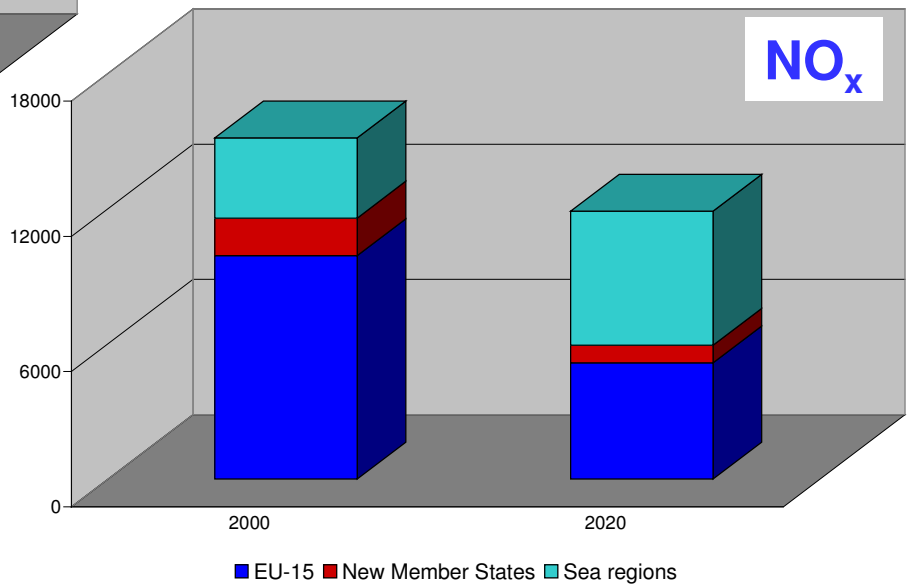
Improvements by 2020 relative to 2000	
Life Years lost from particulate matter (million)	47%
Acute mortality from ozone	10%
Ecosystem forest area exceeded from acidification	74%
Ecosystem freshwaters area exceeded from acidification	39%
Ecosystem area exceeded from eutrophication	43%
Forest area exceeded by ozone	15%

Improvements 2020 relative to 2000



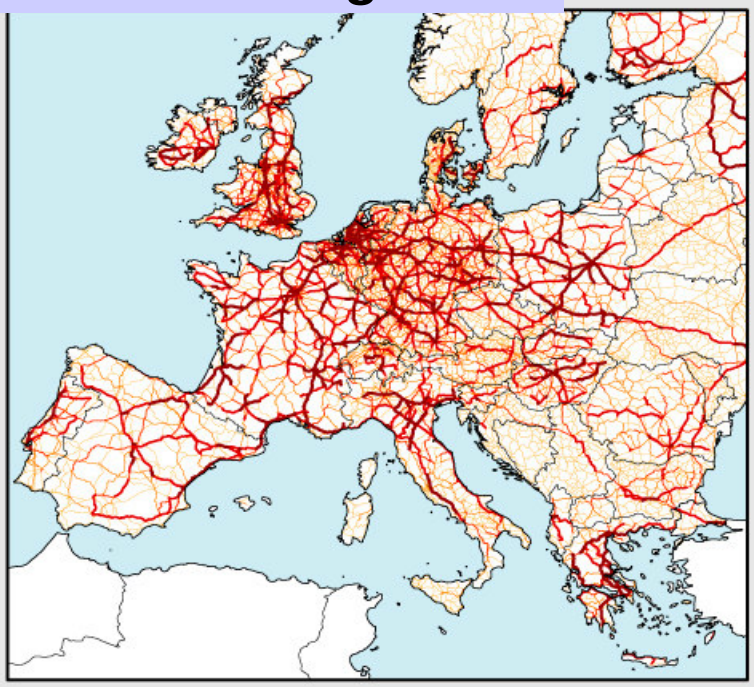
Abatement of ship emissions is effective: ships will surpass land-based EU sources



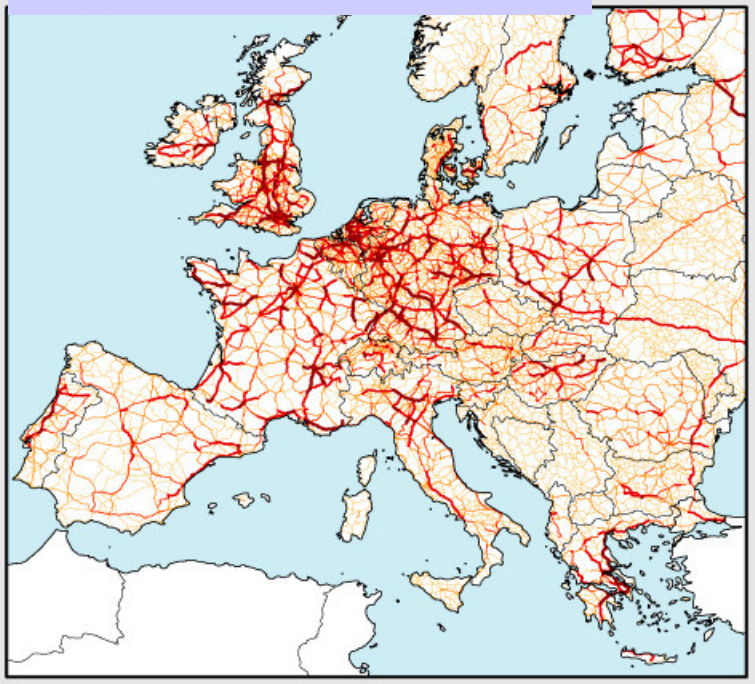


Influence of alternative EU-policies for trade & traffic

HDV 2030 - high



HDV 2030 - low



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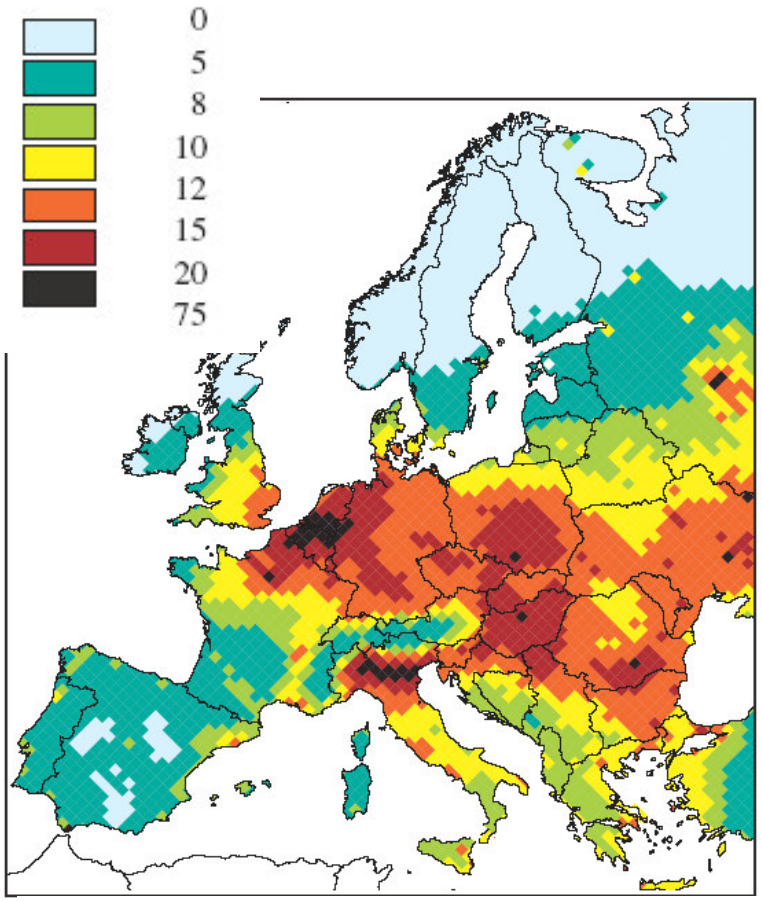
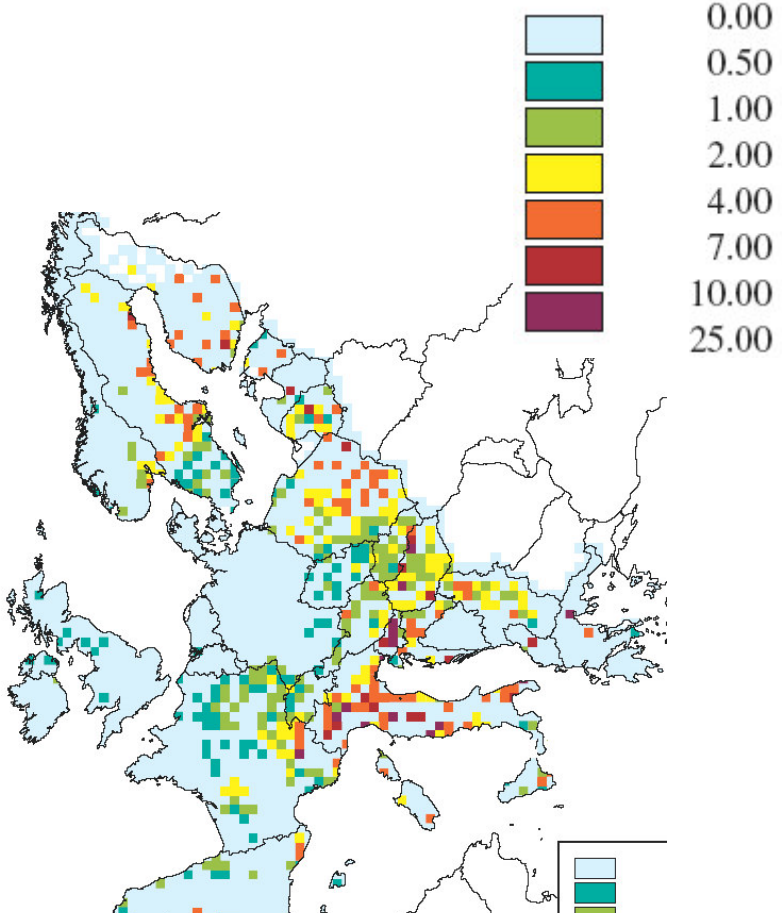
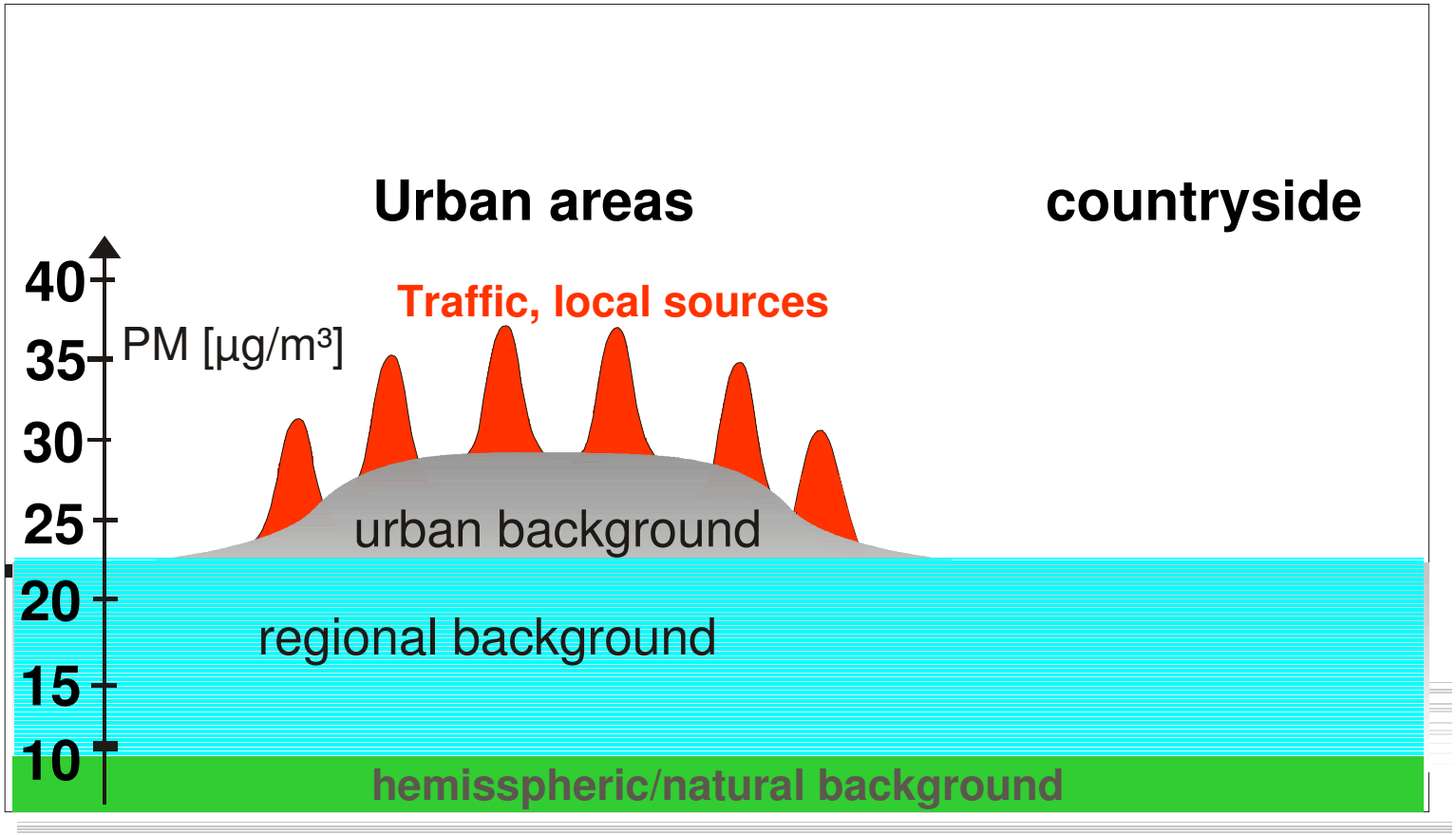
Anthropogenic PM2.5 - 2000

[Grid average & urban increments, µg/m³]



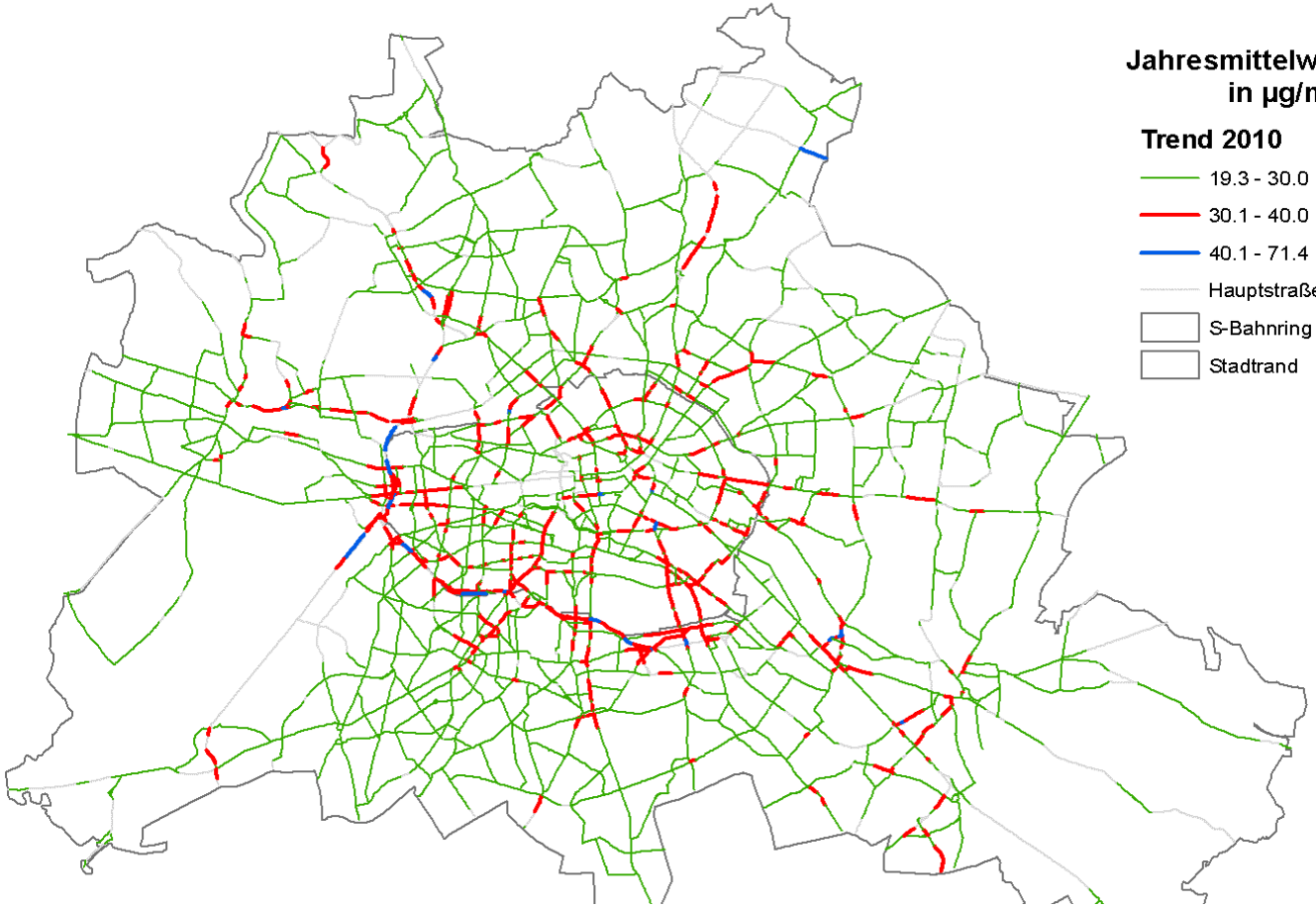


Schematic view of local air pollution



Increasing need to look at local scale solutions

Berlin - PM10 concentration 2010



- **200 km road sections in non-attainment**
- **ca 81.000 affected residents**

Berlin: additional measures planned

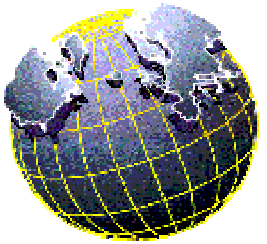
Stationary sources

- BAT and more ….

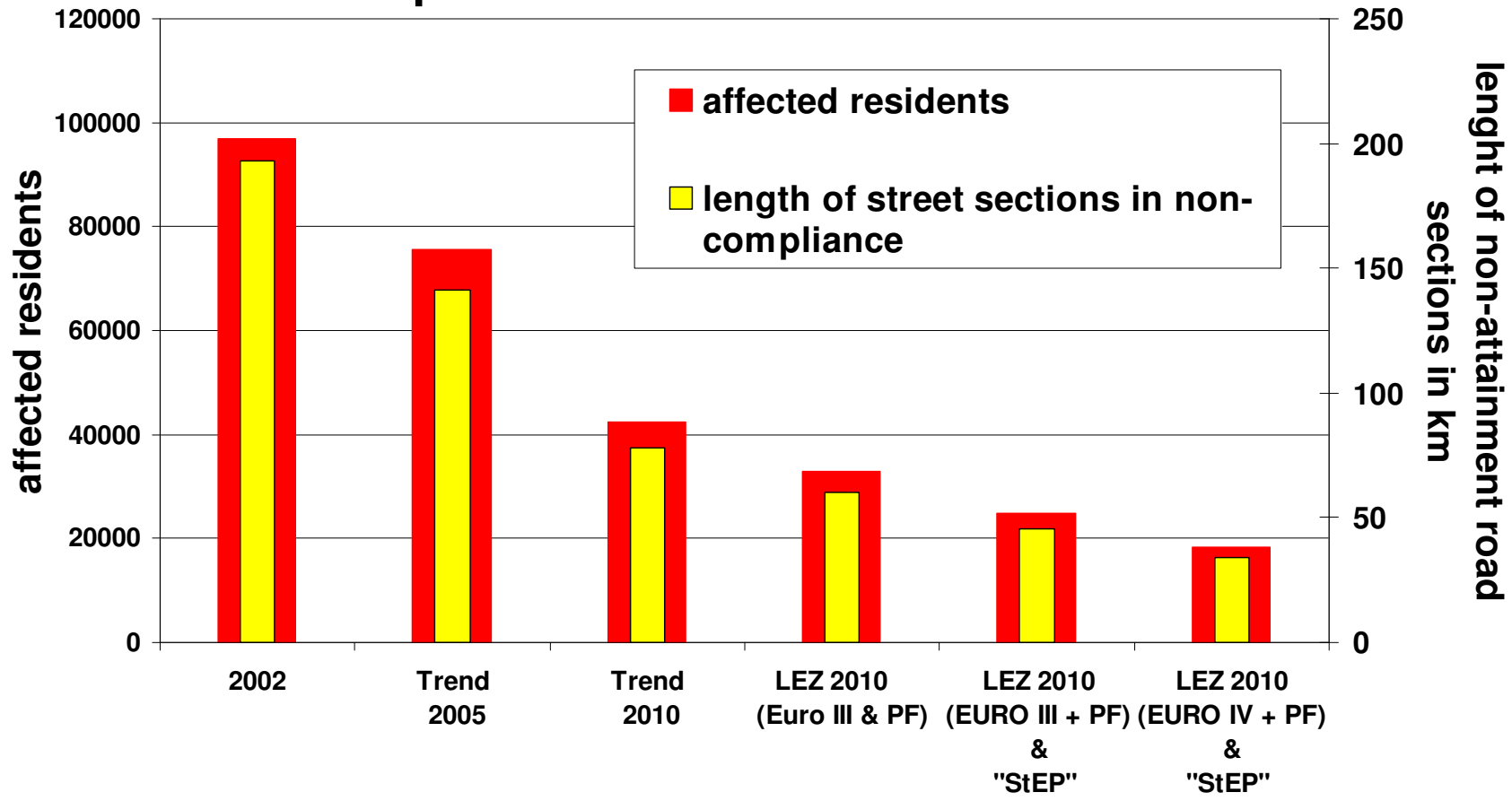
Transport:

- cleaner vehicles and fuels
  - municipal car fleet (CRT retrofit & CNG)
  - LEZ (low emission zone)
- less traffic through sustainable transport- and city planning (master plan transport, “StEP”), *inter alia….*
  - re-routing traffic on tangential roads
  - extension of zones with parking fees
    - expected effect: ~ 10% traffic reduction in Berlin’s centre
- Optimized traffic management at hot spots
  - linked with noise abatement
- Speed limits
  - big effect on noise and road safety
  - little effect on air quality

Berlin: various control scenarios



exceedances of the PM10 24h-limit value
impacts of various control scenarios



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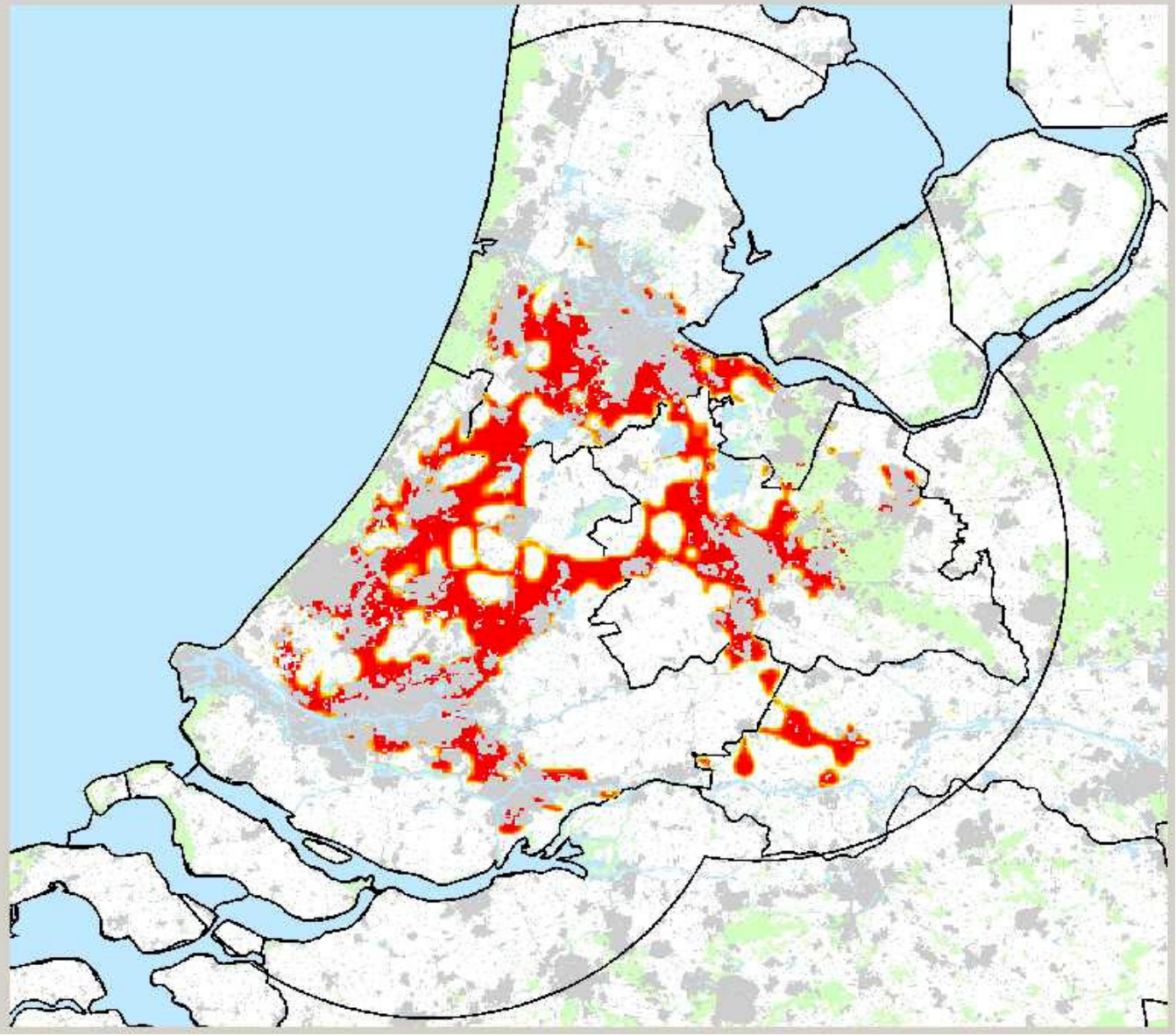
Result map | Diagnostics

Geschiktheid
Meer
Minder

Externe Veiligheid	0
NO2 in lucht	0
Geluid	0
Fijnstof	0
Landschapswaarde	0
Natuurwaarde	0
Dalende veengebieden	0
Diepe poldergebieden	0
20-Ke Schiphol	0
Netto EHS	0
VHR gebieden	0
Nationale Landschappen	0
BufferZones	0
Bundelingsgebieden	0
Bereikbaarheid	1000
Aantal ha bebouwd	100000



Locatiezoeker

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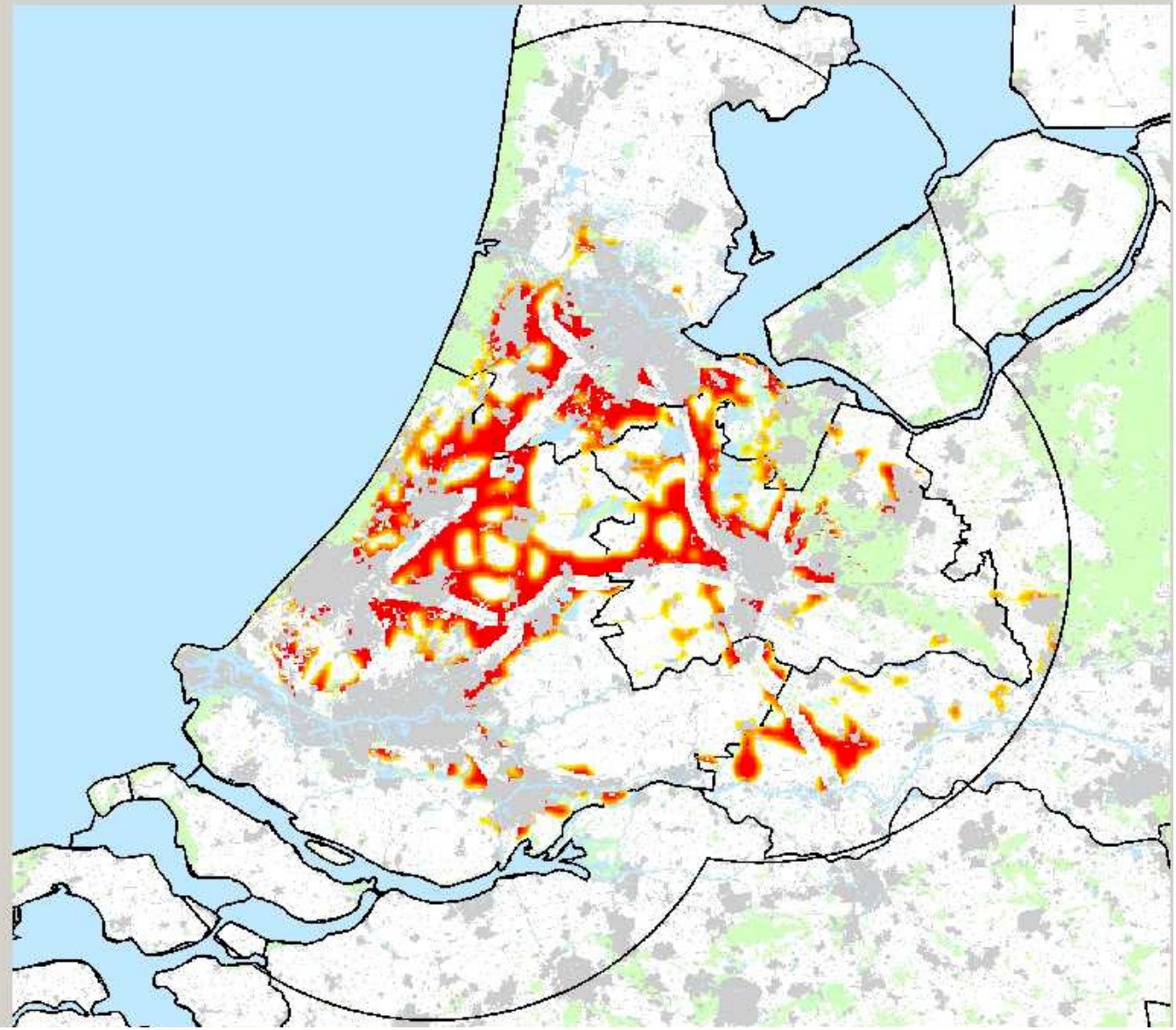
Result map | Diagnostics

Geschiktheid
Meer
Minder

Externe Veiligheid	0
NO2 in lucht	-1000
Geluid	0
Fijnstof	-1000
Landschapswaarde	0
Natuurwaarde	0
Dalende veengebieden	0
Diepe poldergebieden	0
20-Ke Schiphol	0
Netto EHS	0
VHR gebieden	0
Nationale Landschappen	0
BufferZones	0
Bundelingsgebieden	0
Bereikbaarheid	1
Aantal ha bebouwd	100000



Costs and effects of transport policy

Can we curb increases in car use?

Can we curb the increased use of diesel cars?

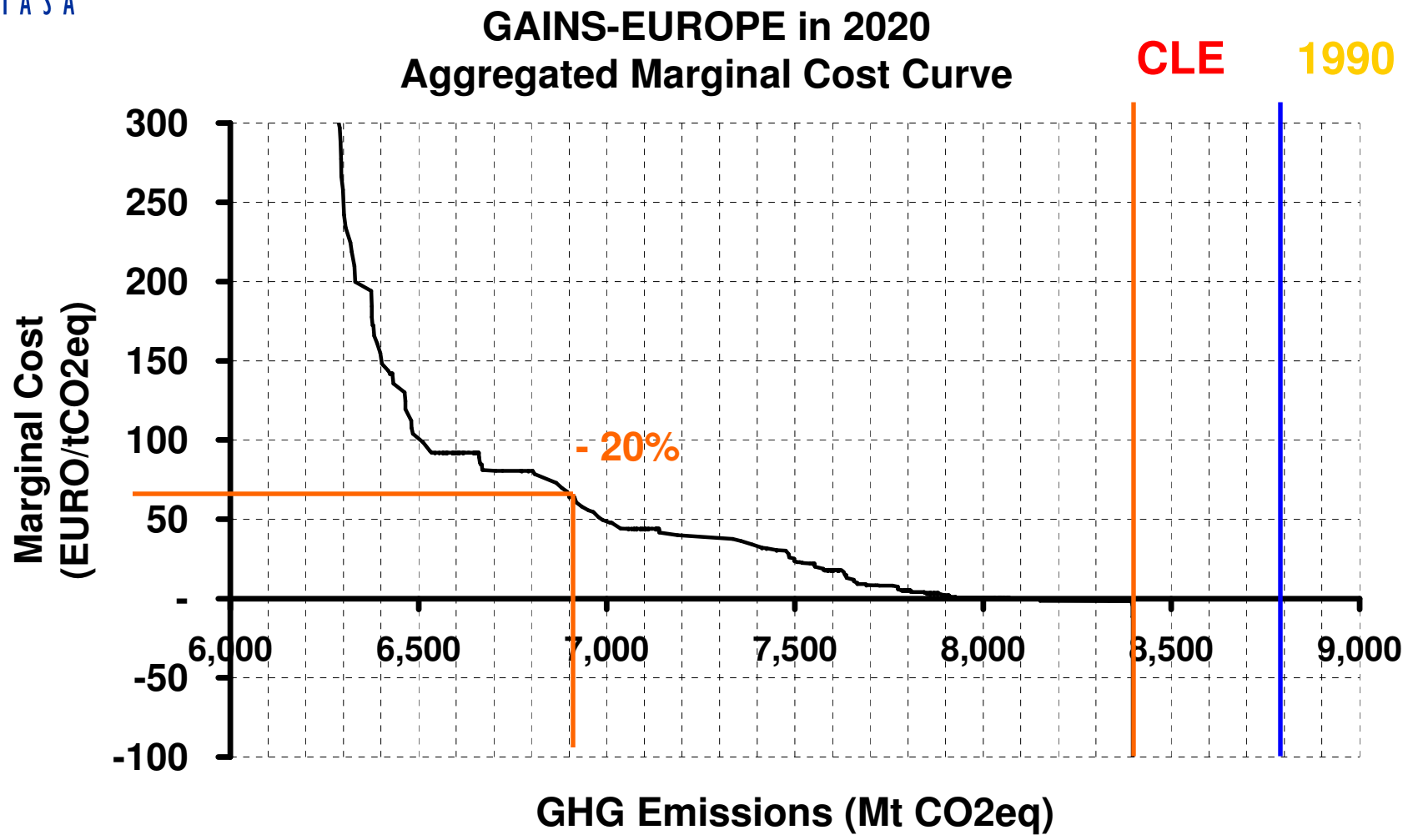
Can we change freight transport modes?

Can we curb increases in air traffic?

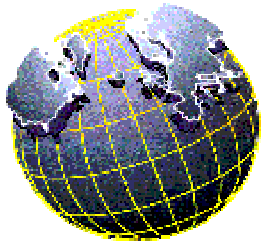
What are effective instruments?

What are the costs?

GAINS: GHG cost curve in 2020

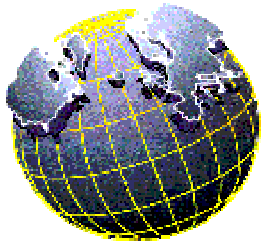


Costs and effects of energy policy



- What are the costs and effects of changes in the fuel mix?
- What about nuclear power?
- How to deal with changes in subsidies?
- How to deal with energy saving measures with negative costs?
- What are effective policy instruments?

Costs and effects of agricultural policy



- What are the costs and effects of changes in the agricultural susbsidies?
- What are the costs of spatial policy measures?
- What are the costs of changes in diet?
- What are effective policy instruments?

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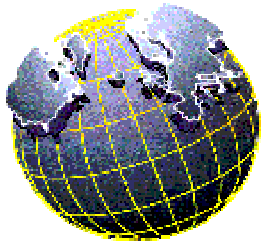
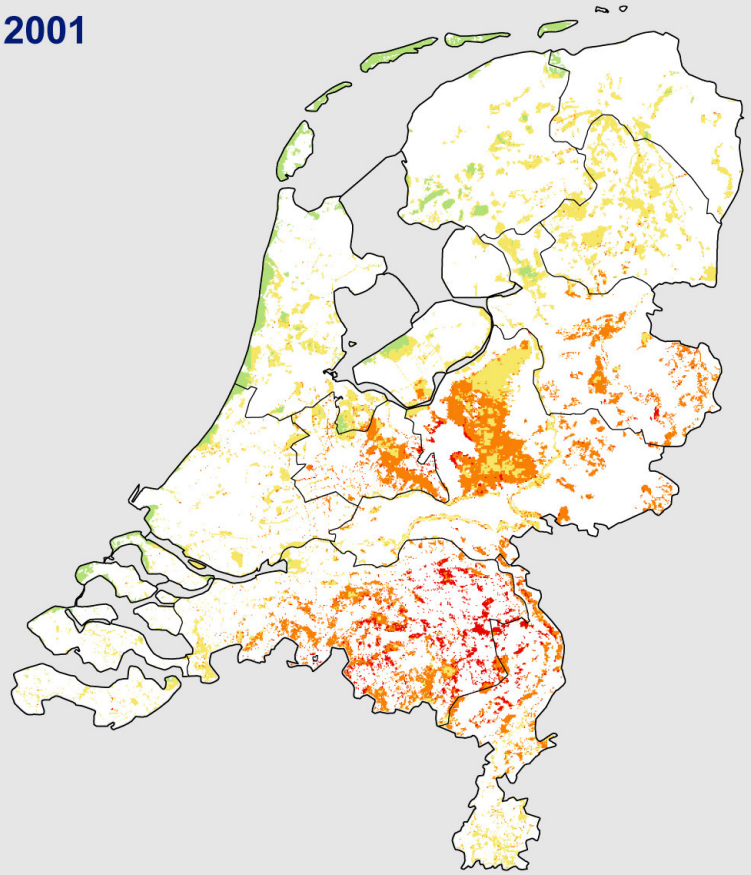
Nitrogen problems are localized in sensitive nature areas





Stikstofdepositie binnen de EHS

- < 400 mol/ha per jaar
- 400 - 1400
- 1400 - 2400
- 2400 - 3400
- >= 3400

- 15-25% of nature areas is protected
- 20% of farm emissions is deposited within 1 km
- Yet local measures are not effective

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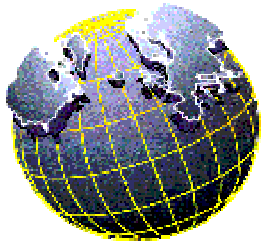
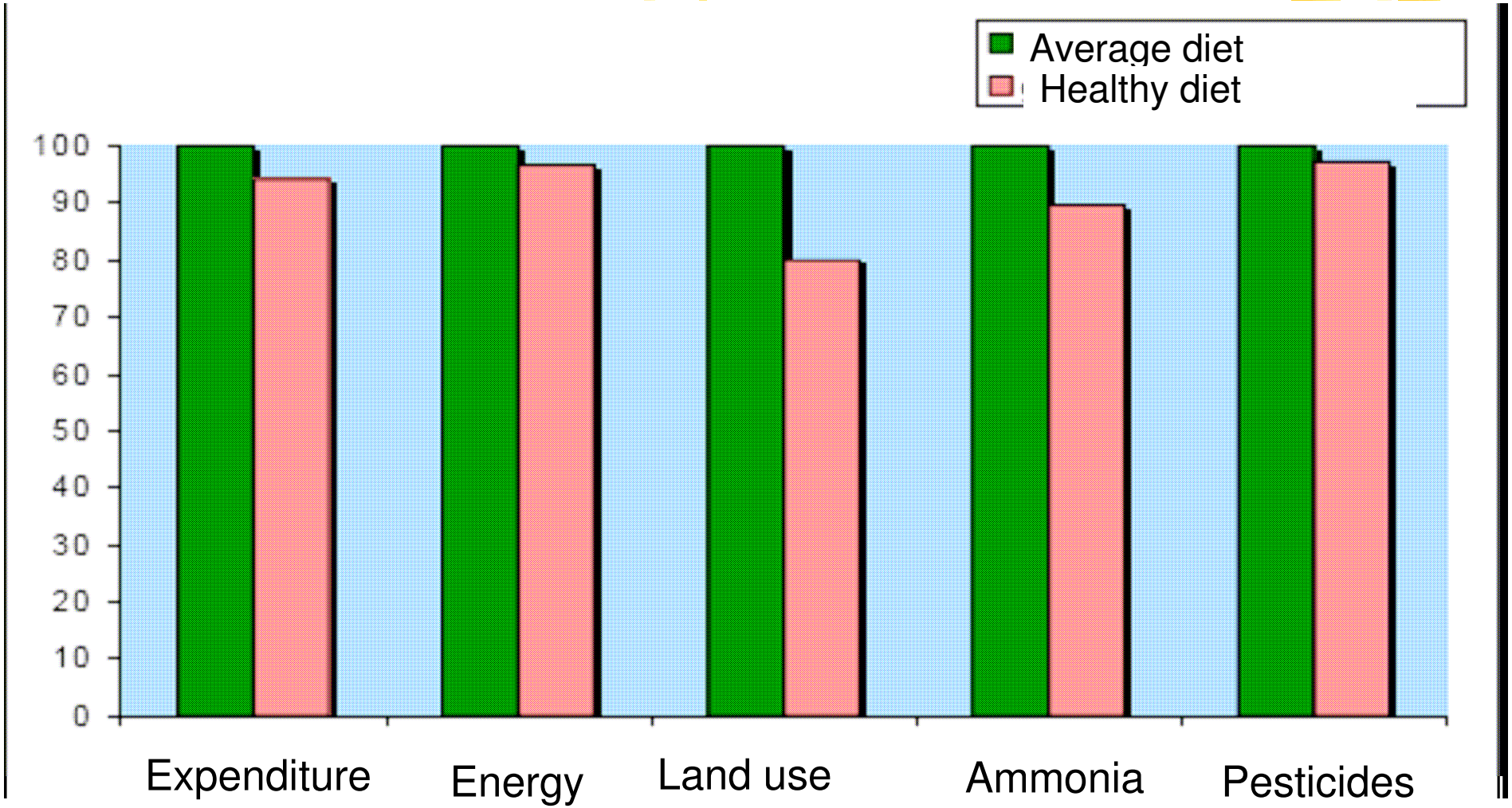
Less meat is healthy, less costly and good for the environment





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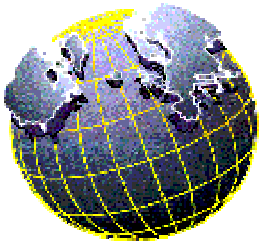

Thank you