

# *The ExternE methodology applied to Electricity & Transport policies in Belgium*

Luc Int Panis  
Vito, Integrated Environmental Studies

DIEM Stakeholder WORKSHOP

Brussels, 10 March 2004



# Agenda

- Policy oriented applications
  - Electricity sector
  - Transport sector

- EÜ
  - National implementation
  - Location dependence
  - Comparison of technologies



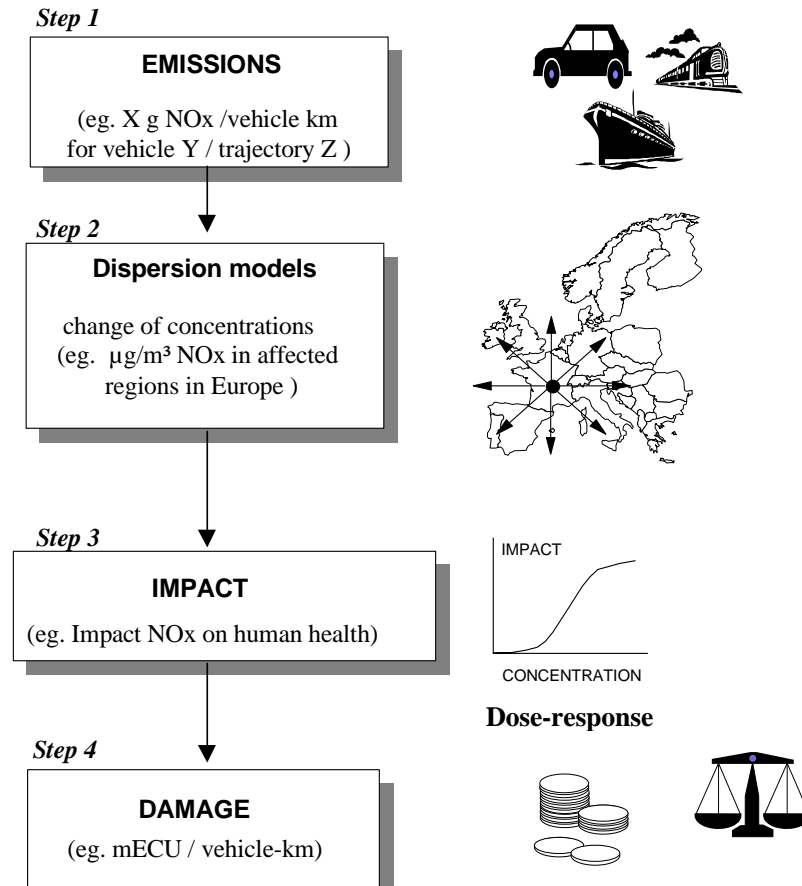
- Electrabel
  - Externalities for different technologies
  - 2000 methodological update



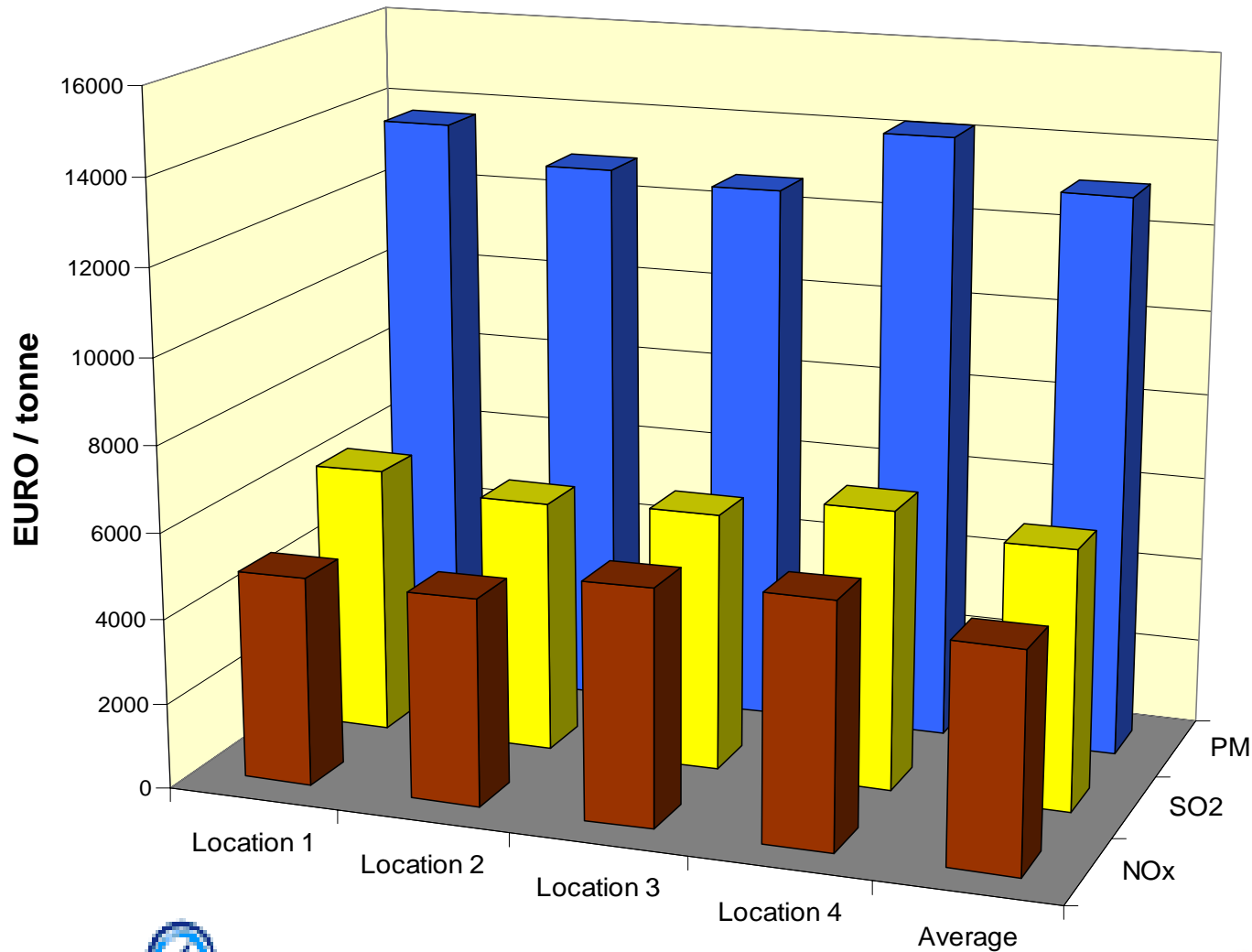
- Flemish government
  - Externalities of different fuels



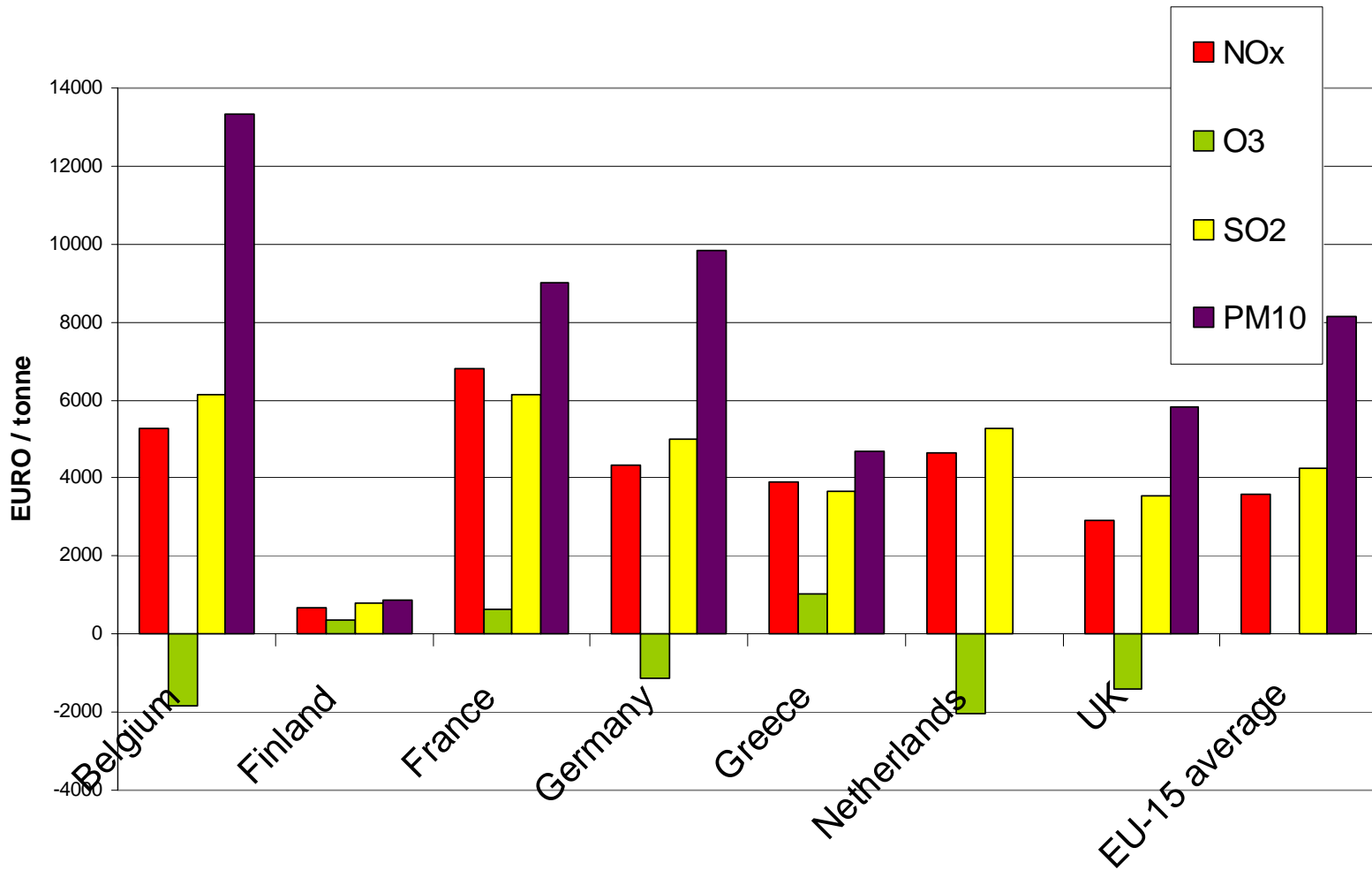
# Impact pathway analyse



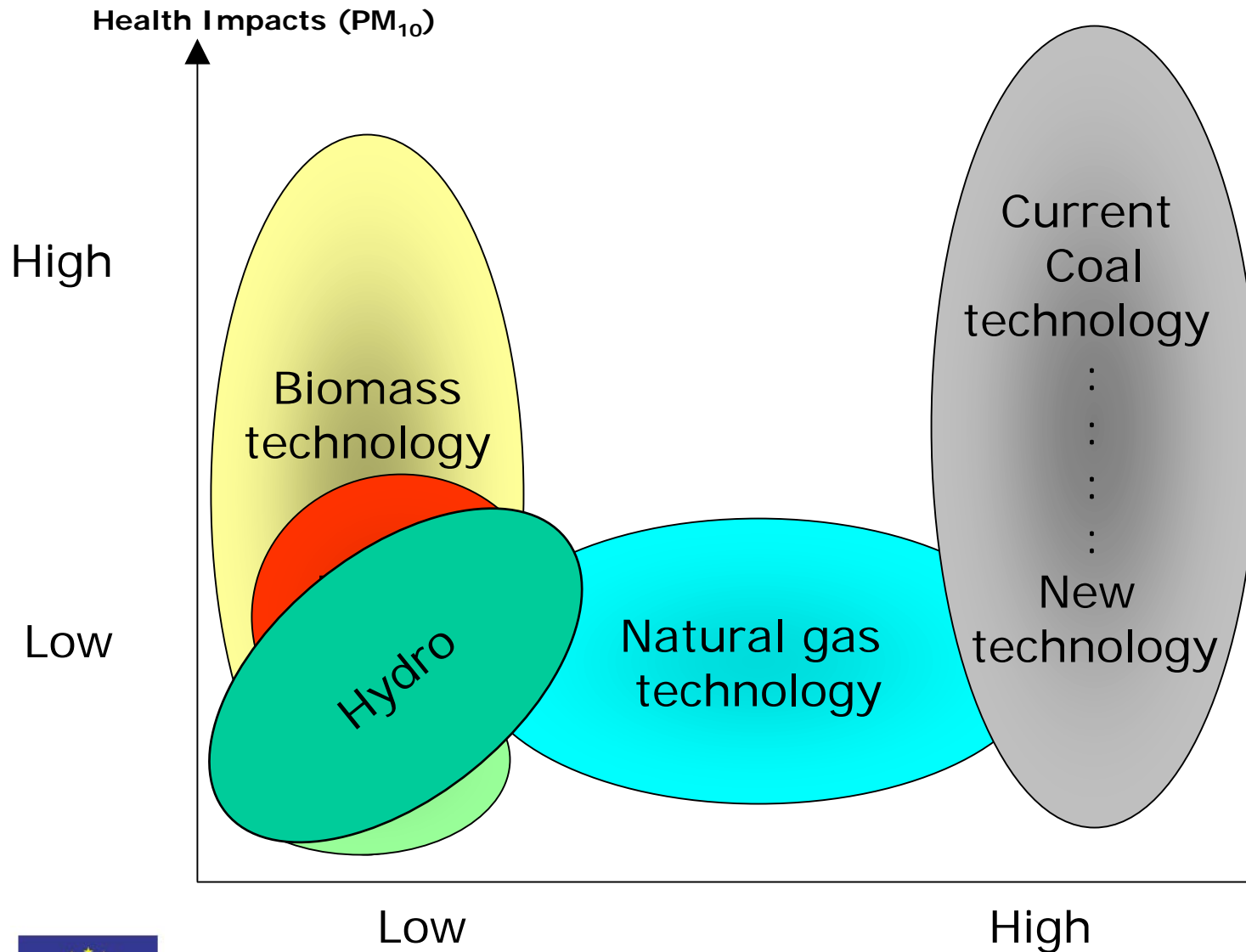
# Externalities from high stack emissions are hardly location dependent in Belgium



# Comparison of marginal external costs per tonne in the EU

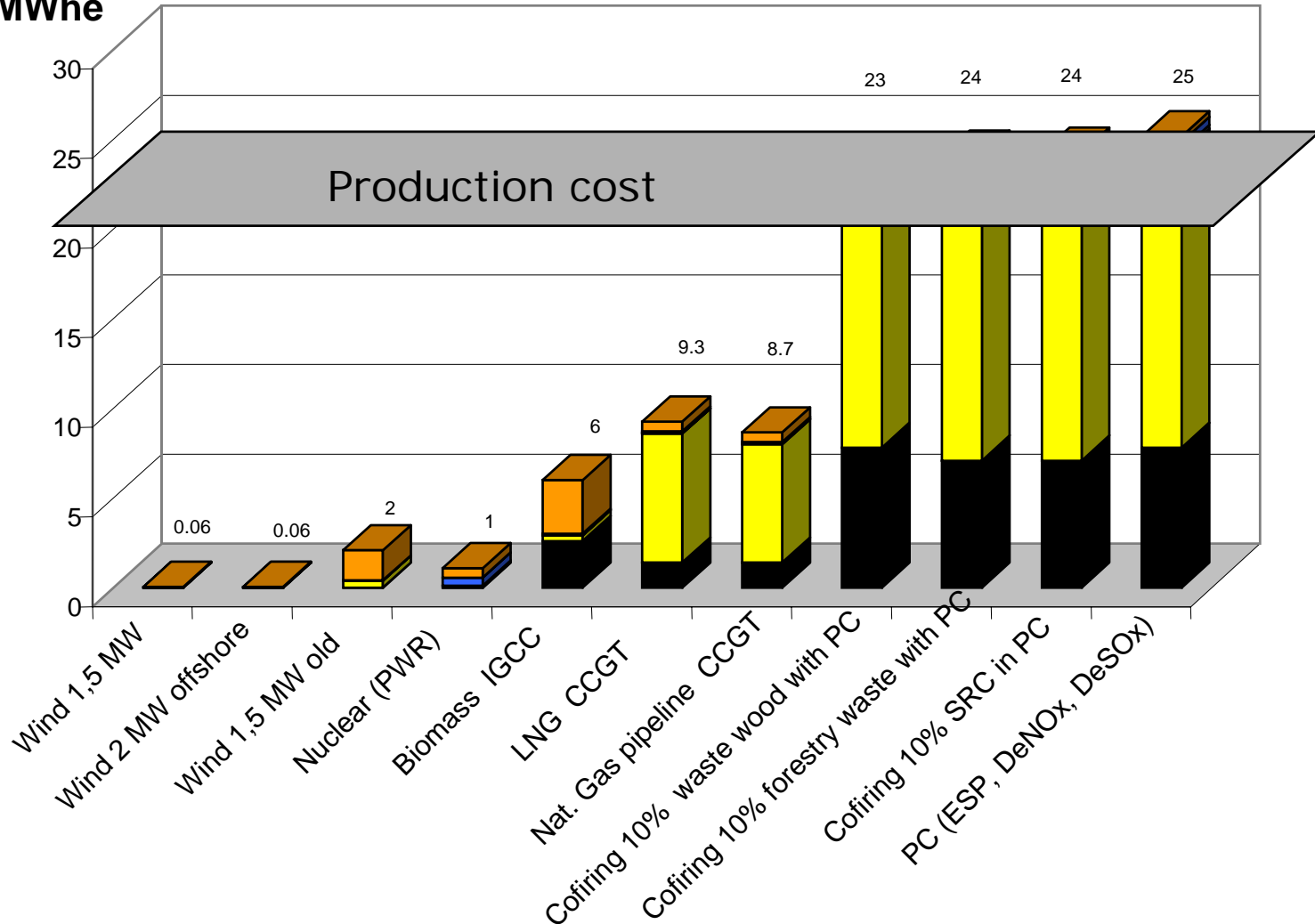


# Power plants: Comparison of technologies



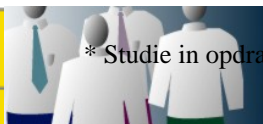
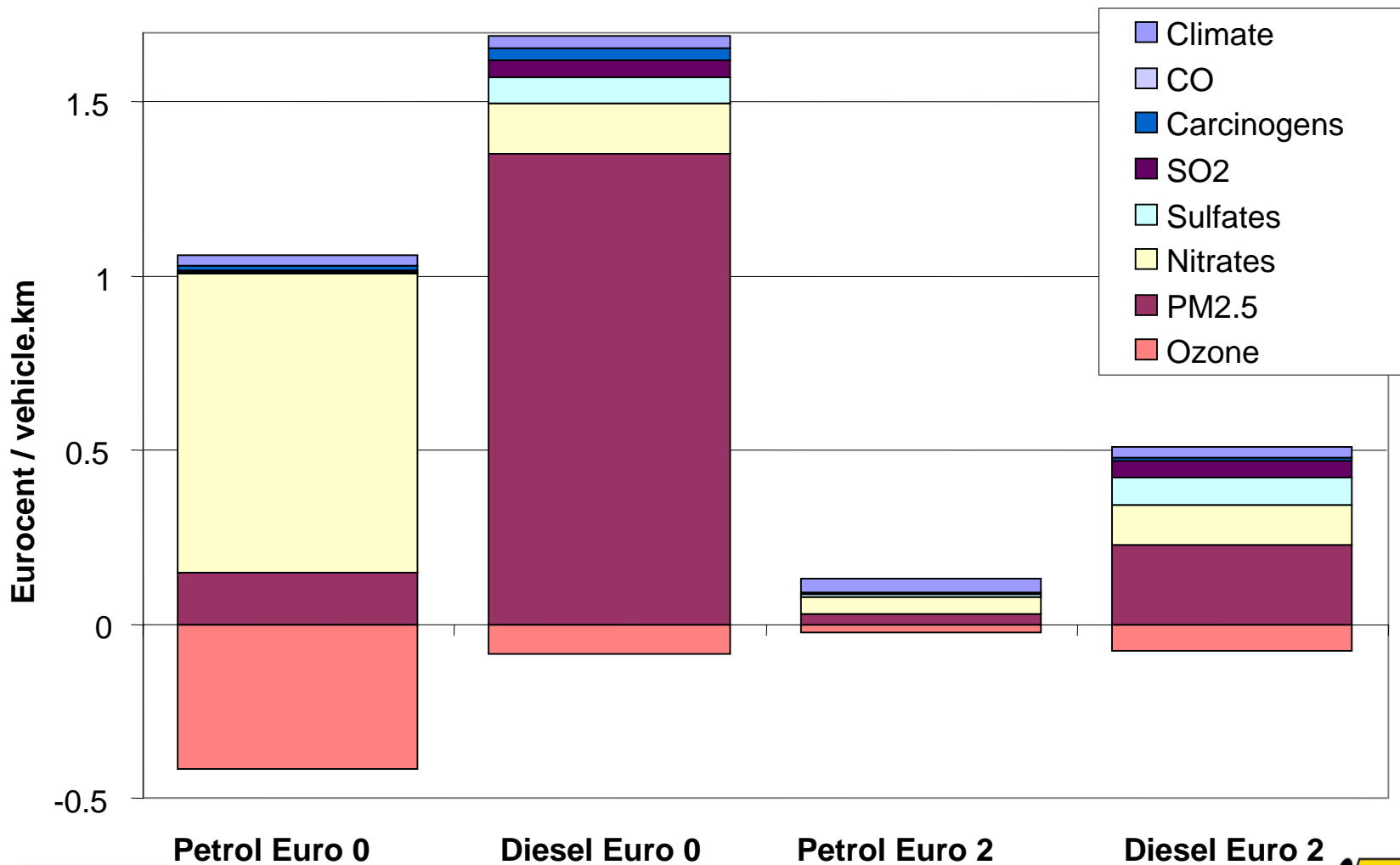
# Energy production in Flanders

EURO / MWh

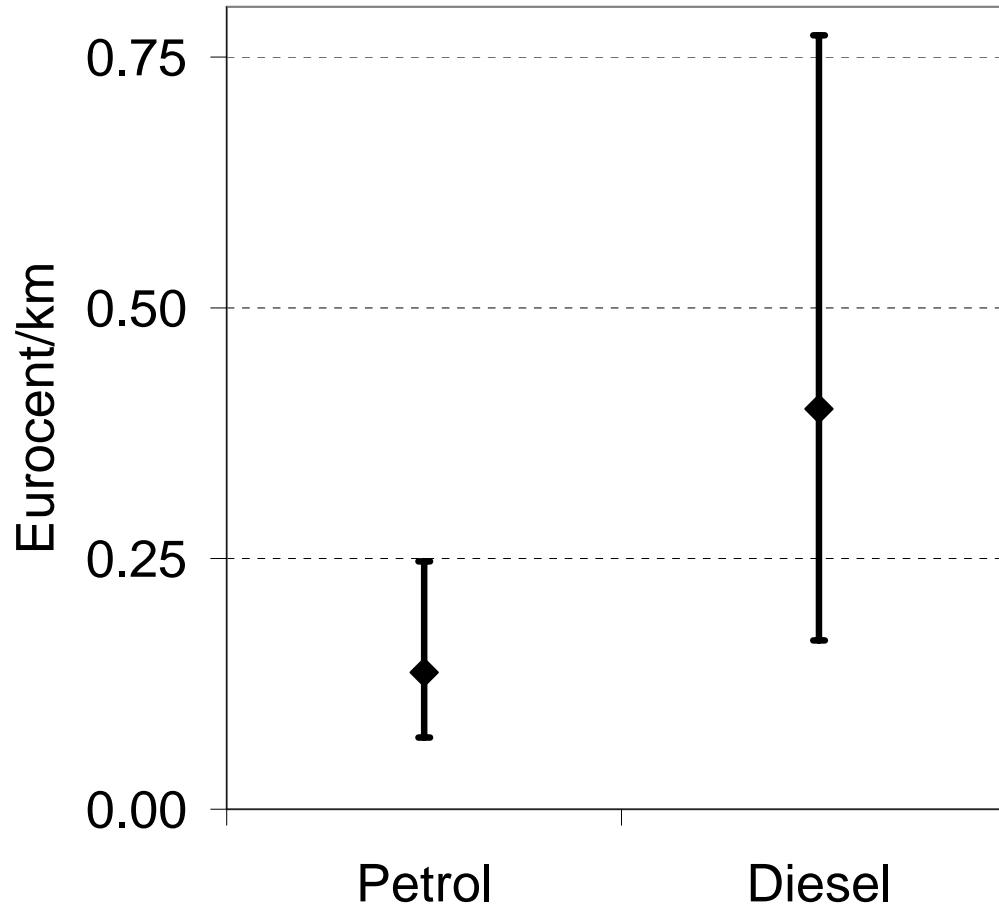


# Transport Impacts are technology dependent

## Passenger cars, rural trajectory



# Uncertainty

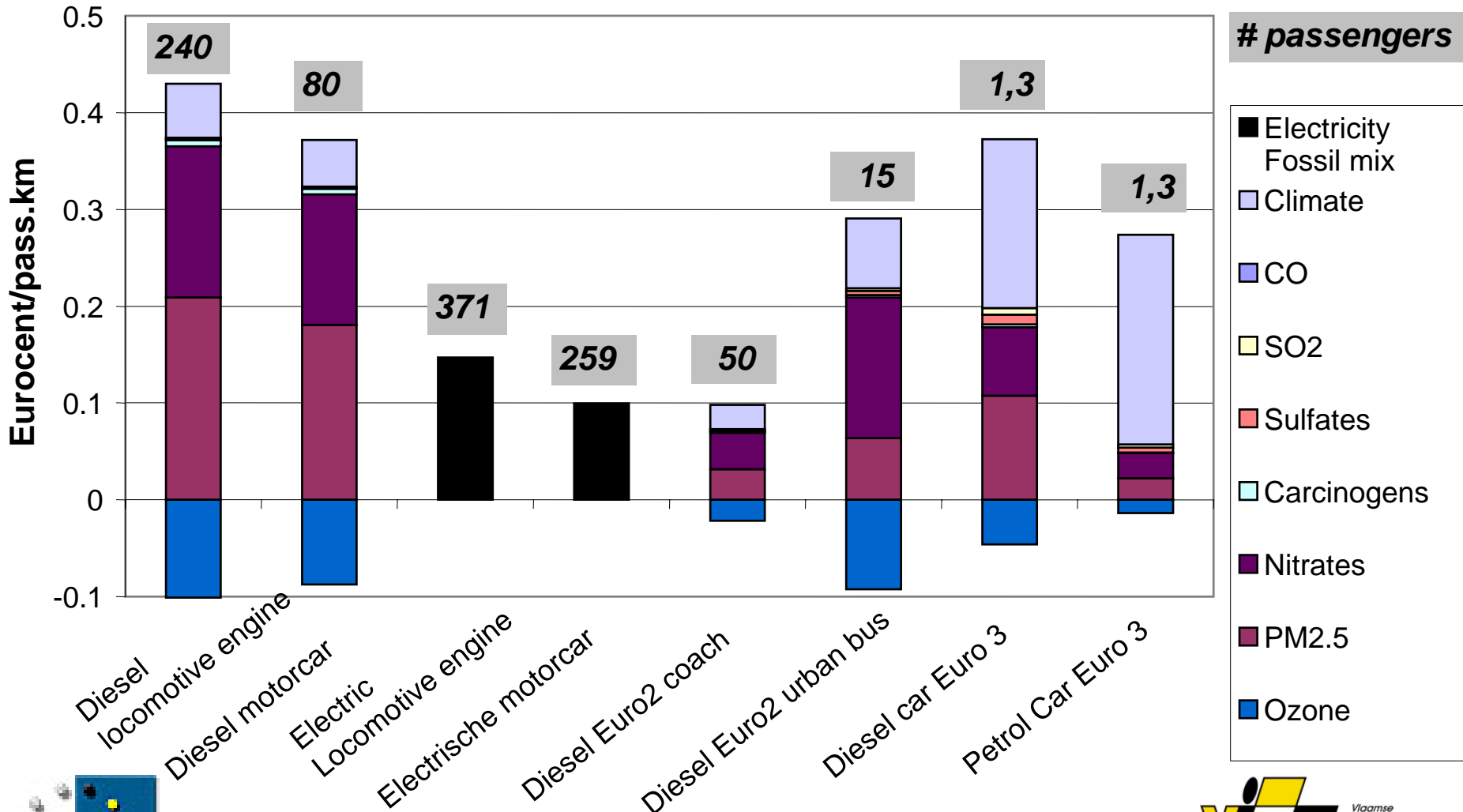


# General comparison of transport modes

- Technology
- Fuel type
- Emission standards
- Occupation rate

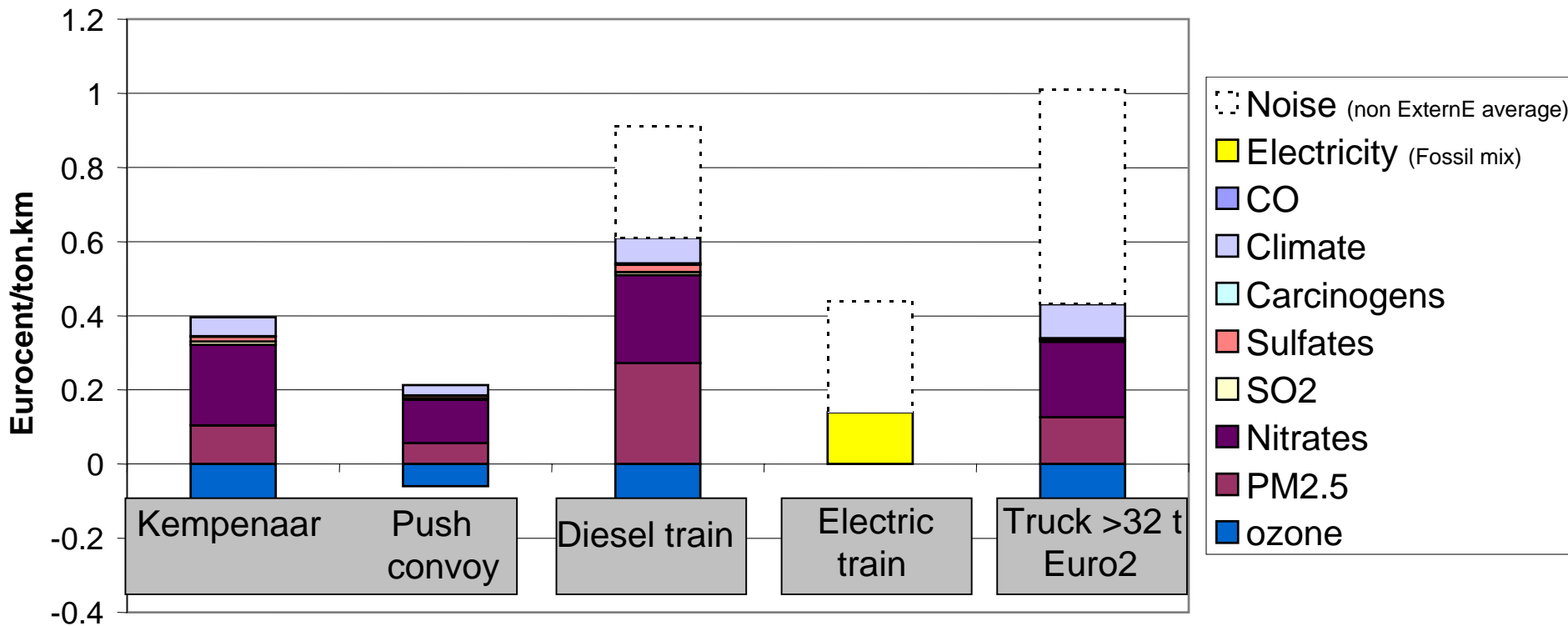


# Passenger transport comparison of modes (rural trajectories)



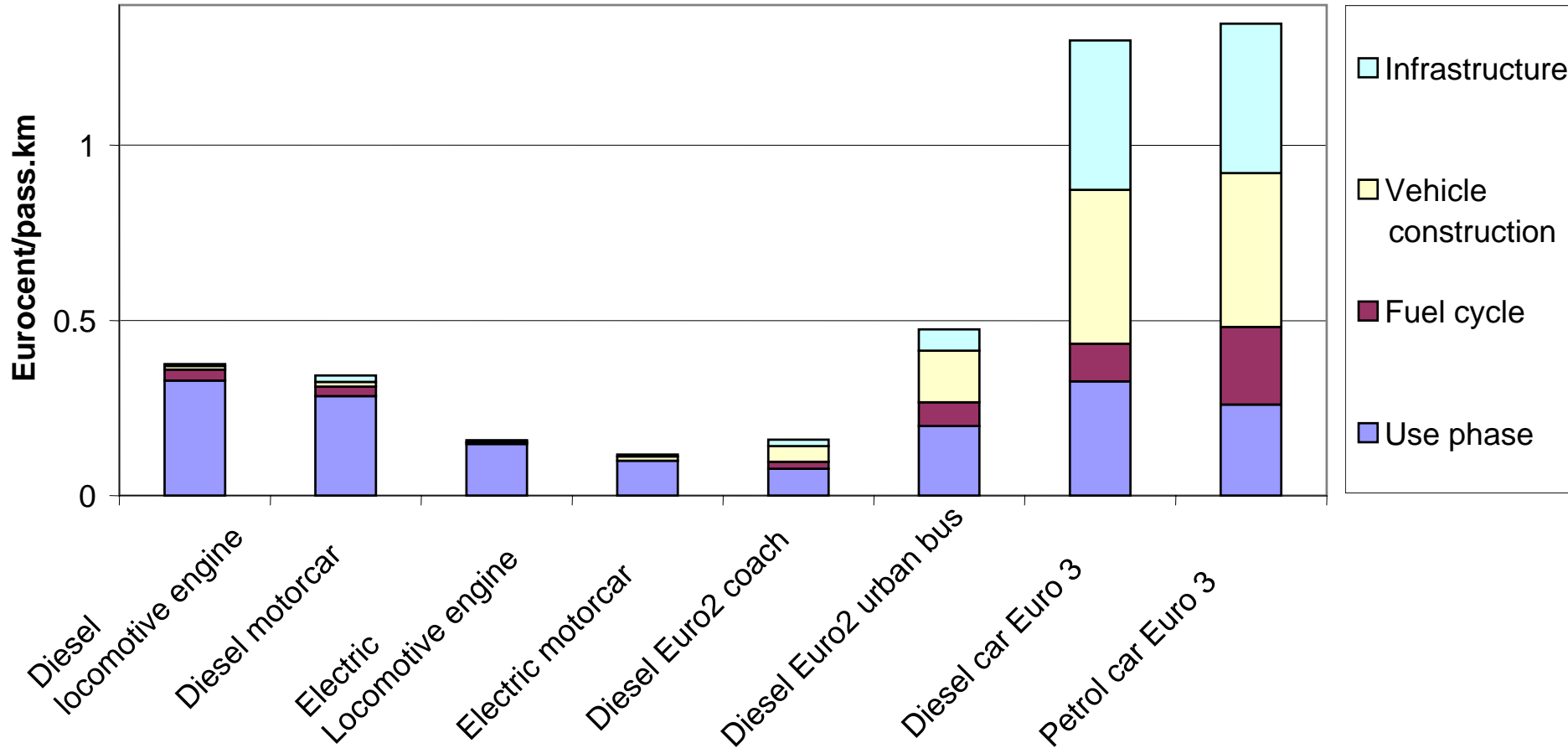
# Goods transport

Comparison of modes (use phase)



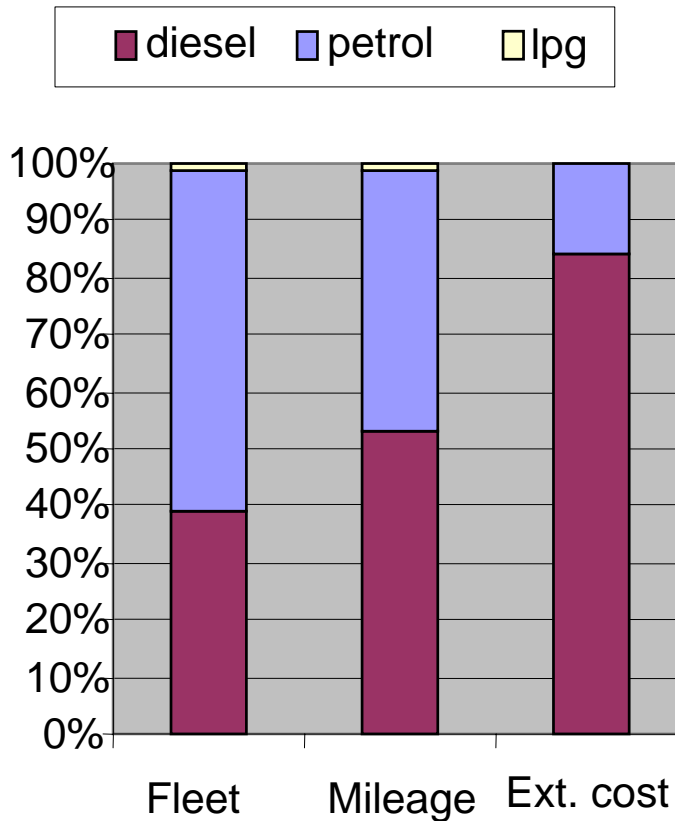
# Passenger transport

## modal comparison (rural trajectories, all phases)

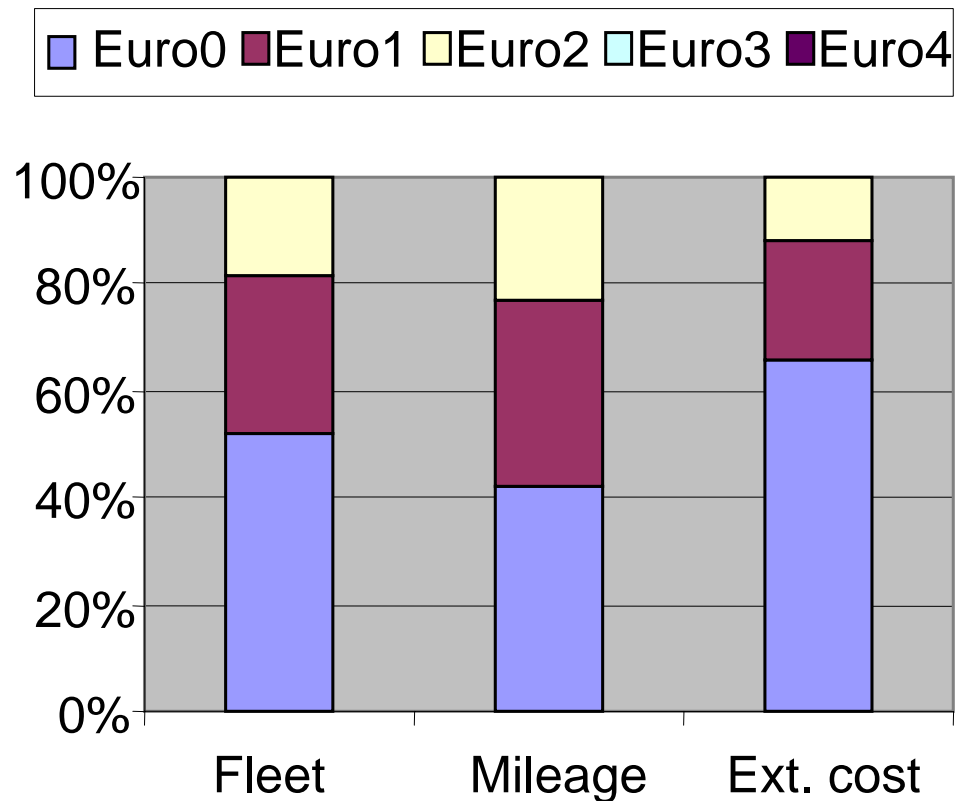


# Application to the entire fleet

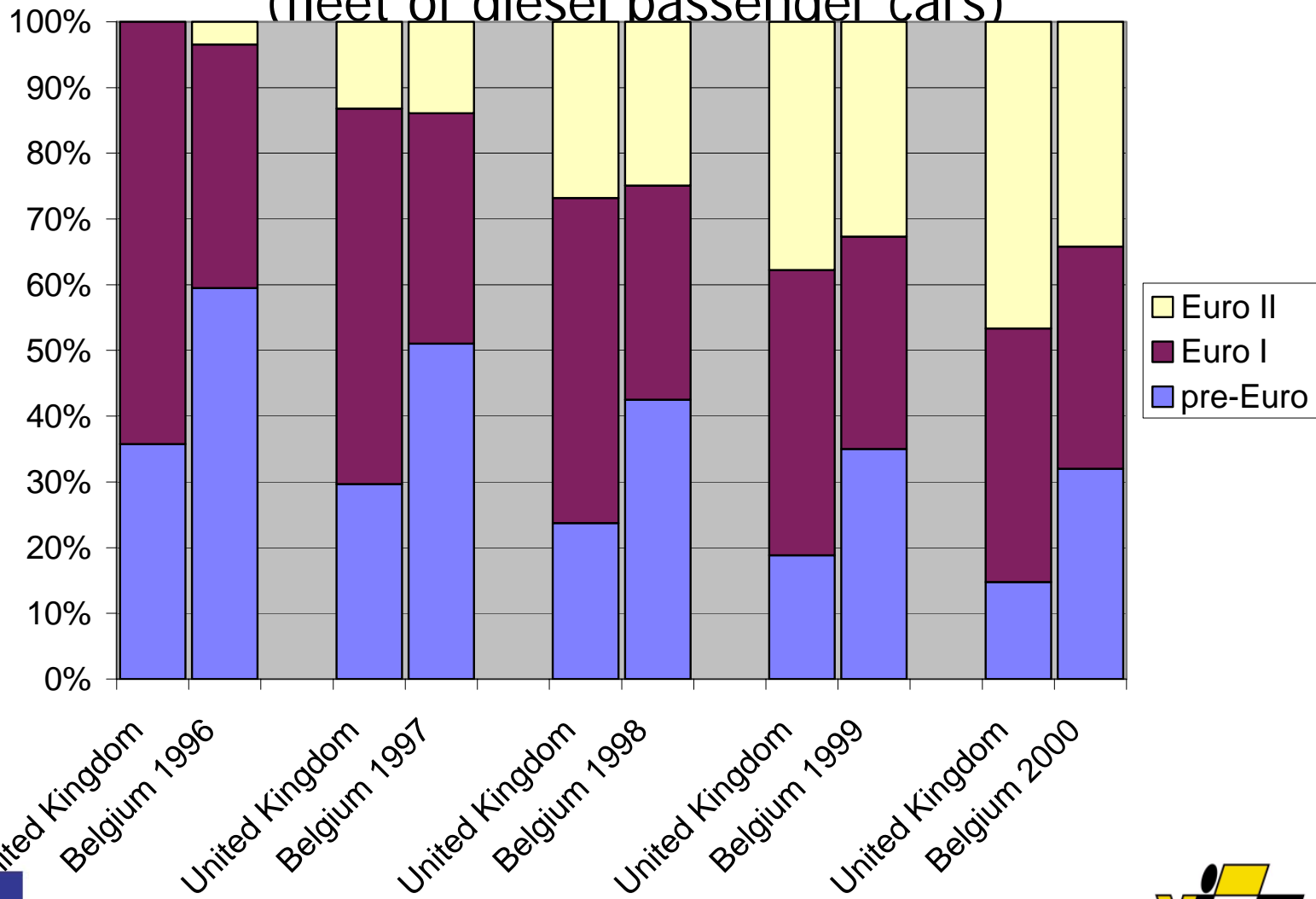
## Share per fuel type



## Share per technology

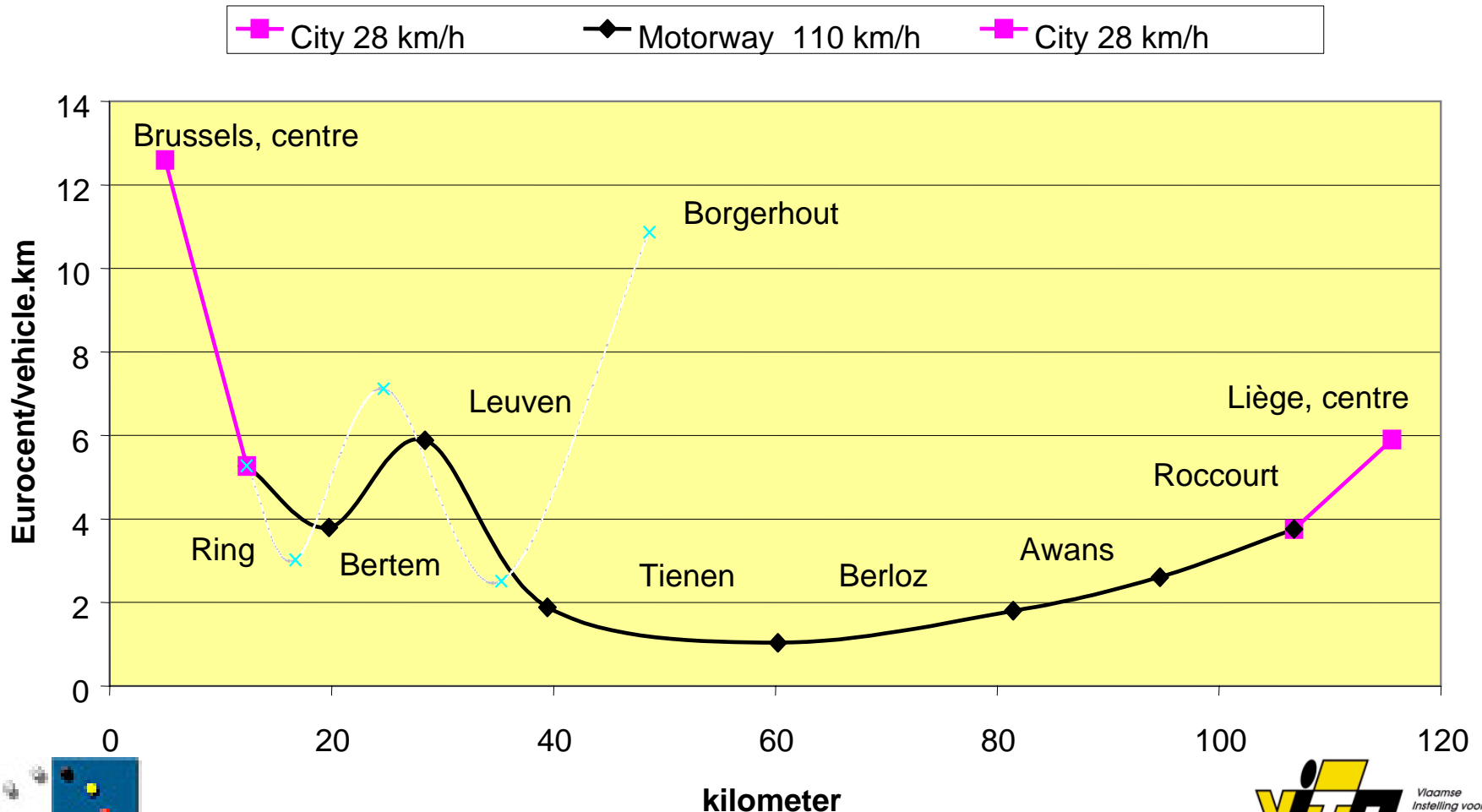


# Possibilities for national policy within the European framework (fleet of diesel passenger cars)



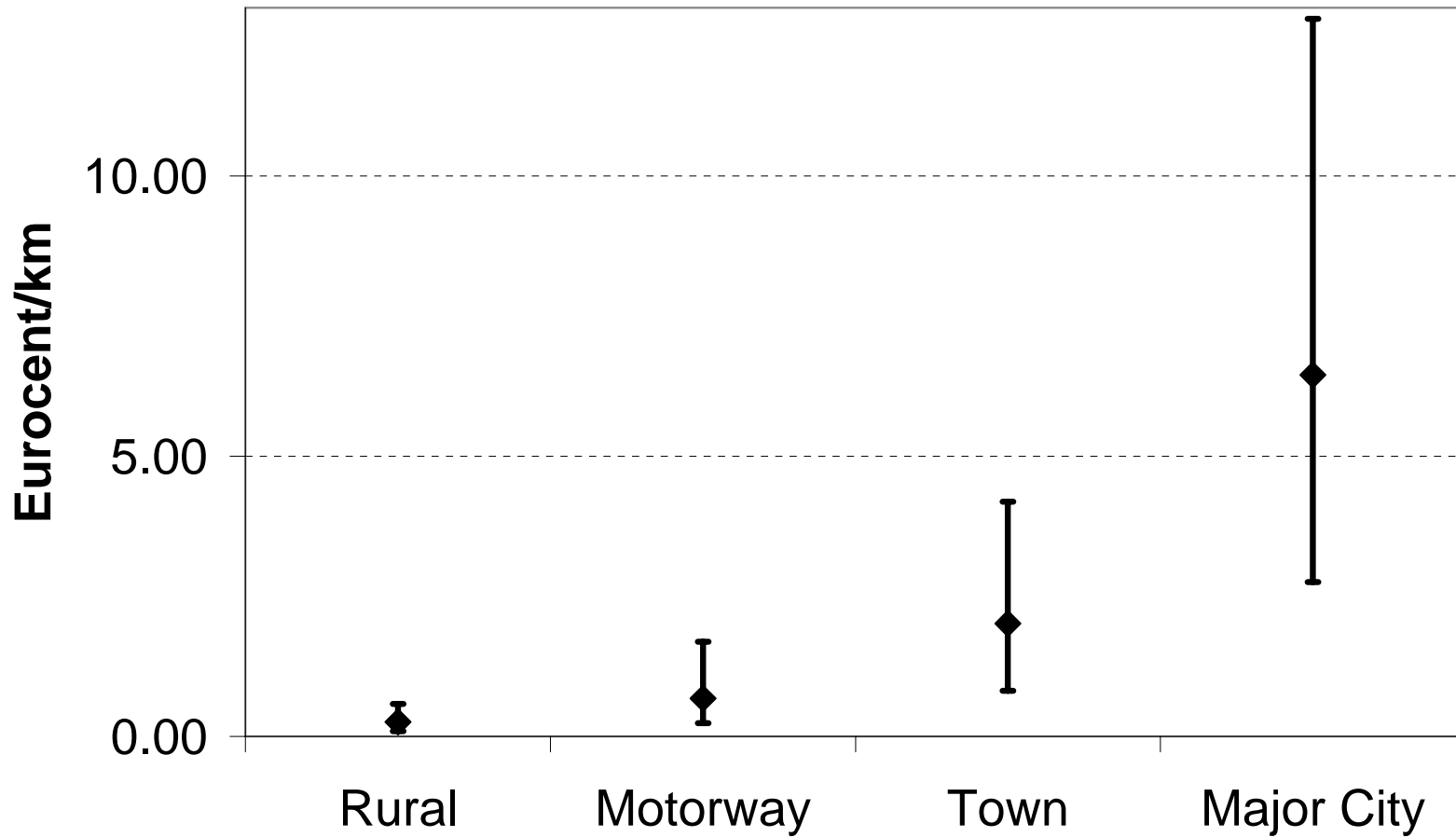
# Transport Impacts are location/trajectory dependent

External cost per vehicle.kilometer  
Brussels to Liège



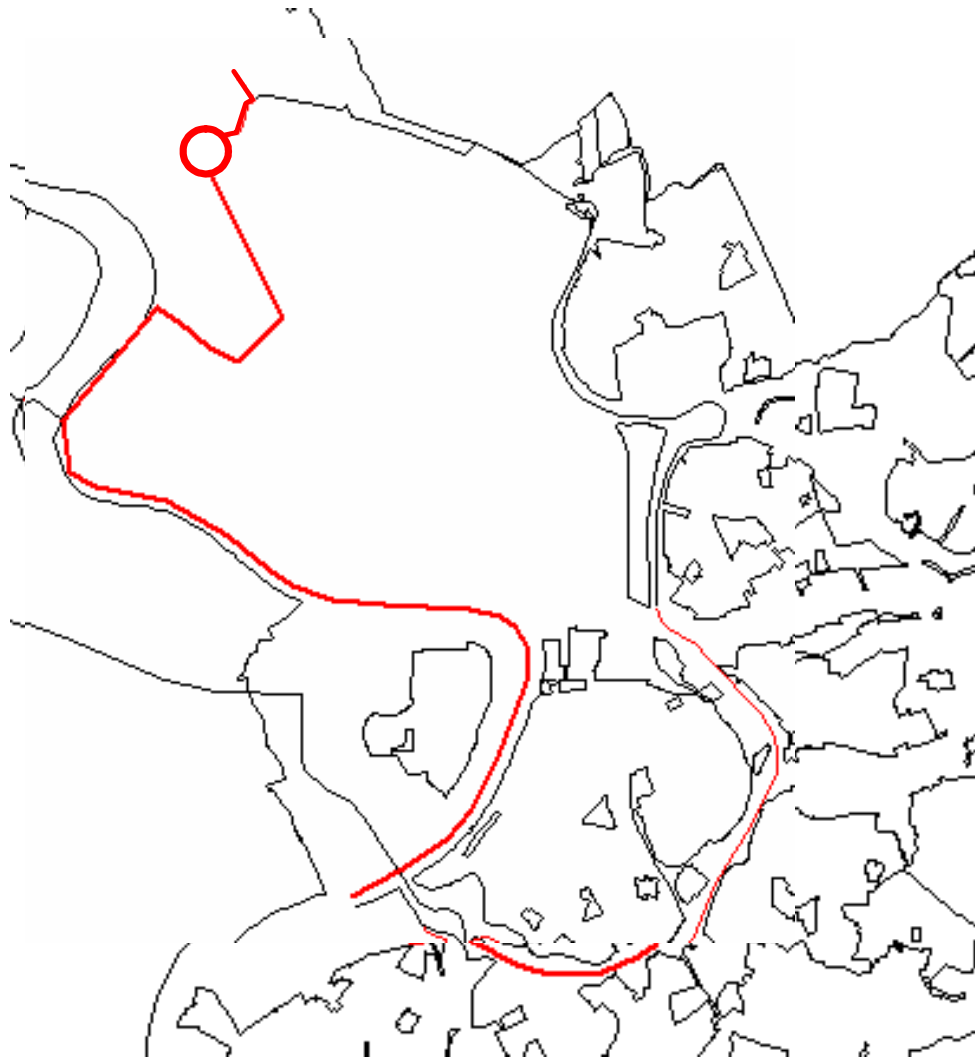
# Difference between petrol & diesel

depends on the trajectory



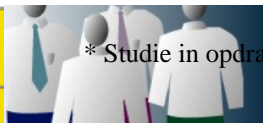
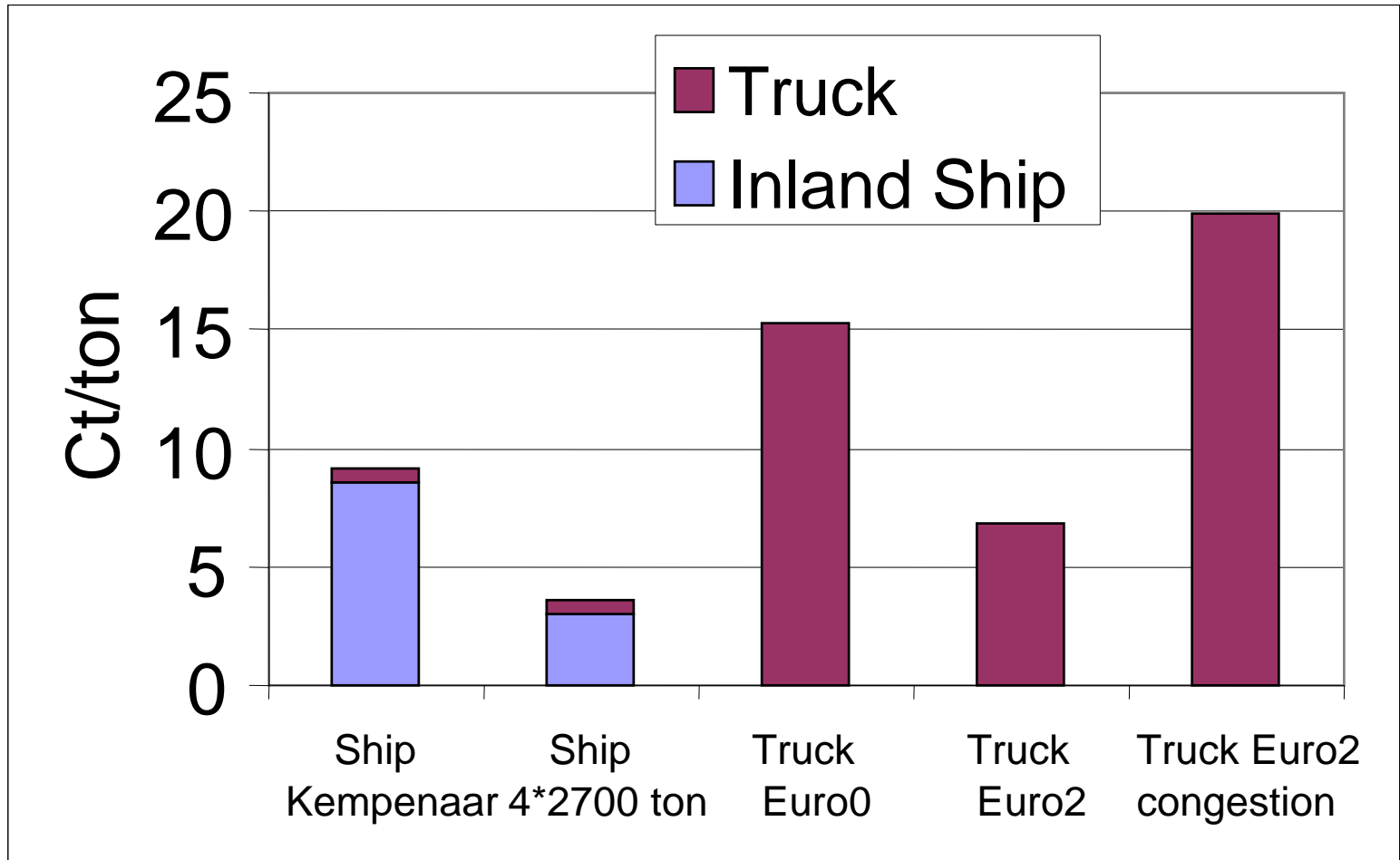
# Comparing alternatives

Options for the transport of waste in Antwerp



# Comparing alternatives

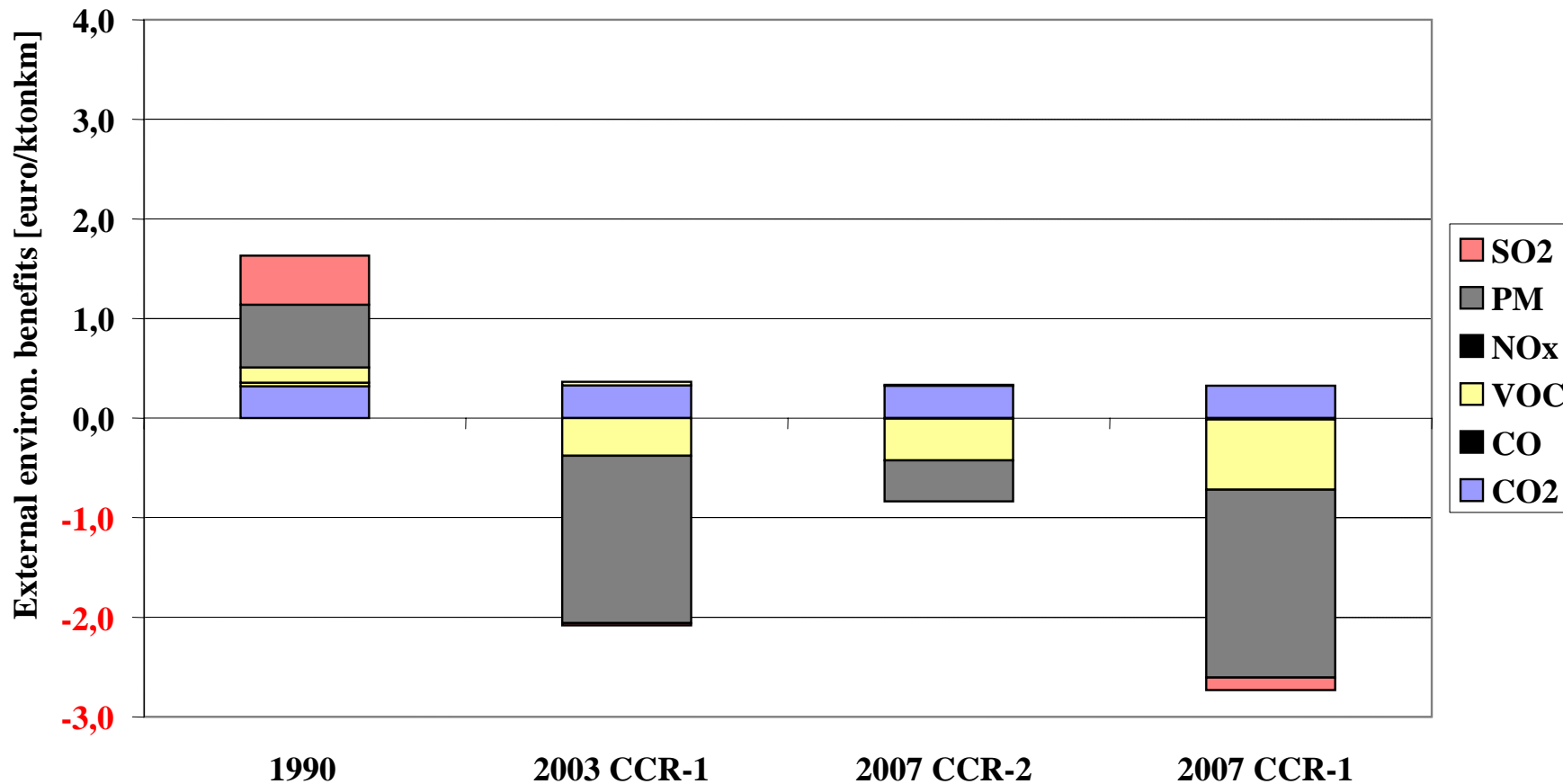
Options for the transport of waste in Antwerp



# Comparing options over time

## transport of large single objects

Kempenaar - Load 50% en MCR 65%

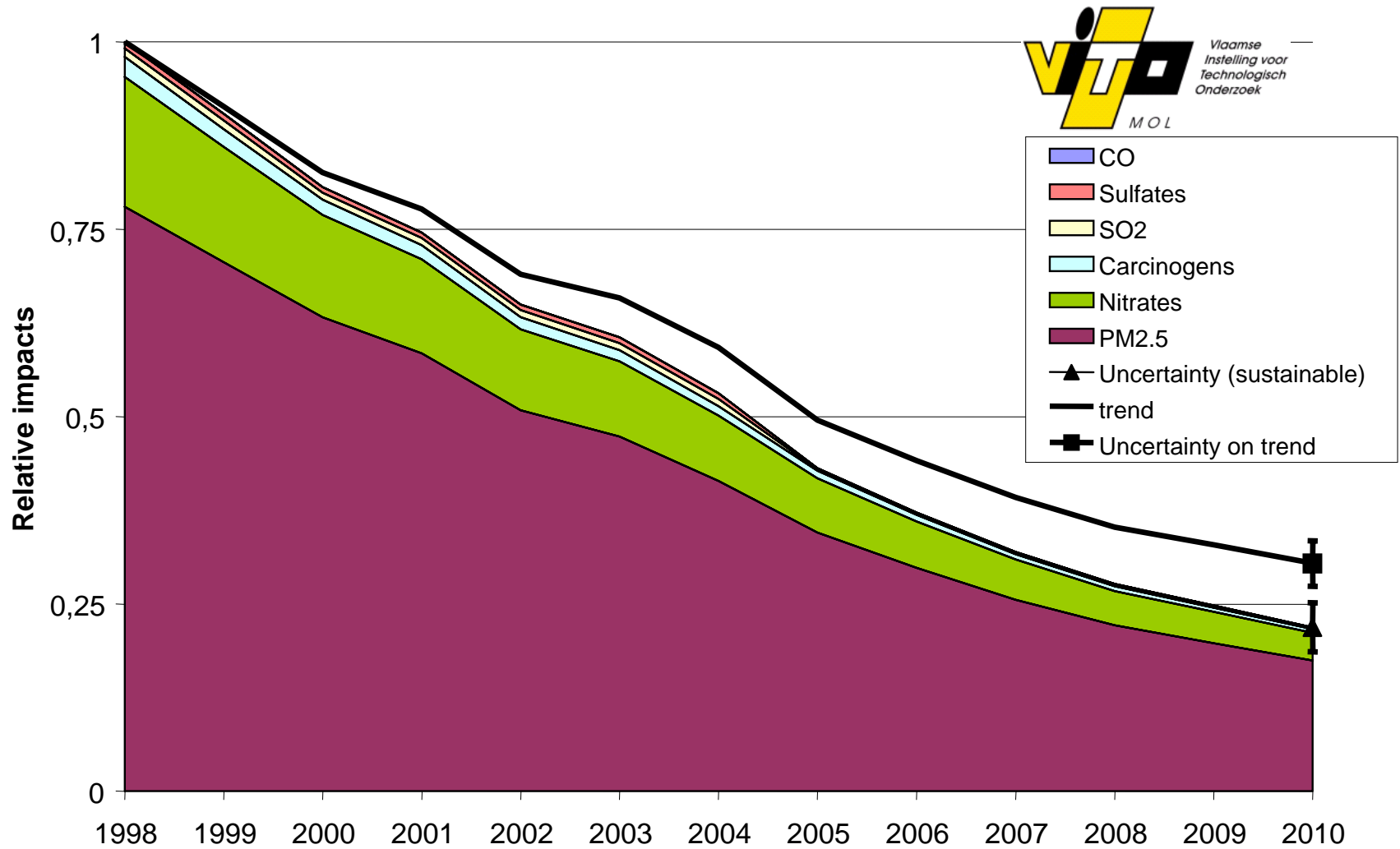


# Strategic Environmental Impact Assessment of the Flemish draft mobility plan

- Early 1999 : Flemish administration starts study of sustainable Mobility plan for Flanders
- 5 strategic goals:
  - Accessibility
  - Admission to transport
  - Traffic safety
  - Traffic liveability
  - Nature & environment
- 2 scenarios for the future
  - Trend : unchanged policy
  - Sustainable: including some 200 measures from the FDMP
- 21 indicators



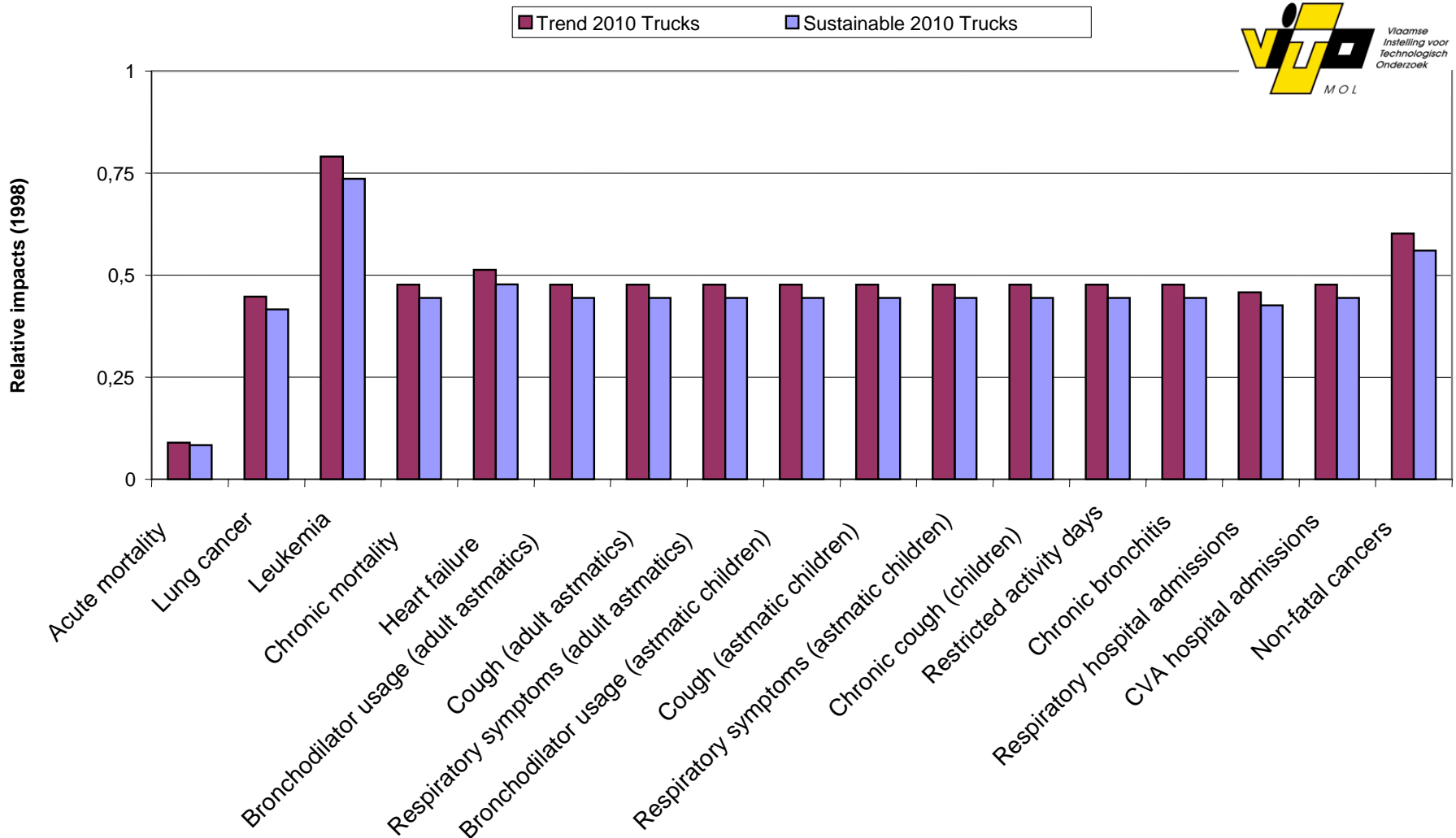
# SMER comparison of policy scenarios



Dissemination and discussion of the  
 ExternE Methodology and Results  
 (DIEM)  
 November 2002 - April 2004



# SMER comparison of policy scenarios



# SMER sustainable scenario contribution of modes

