



Milieueffecten wegverkeer

Haalbaarheid van de beleidsdoelstellingen voor een schoon, zuinig en stil wegverkeer

2009



Algemene Rekenkamer

Auditing Environmental effects of road traffic

- Air pollution
- CO₂ emission
- Traffic noise



Content

- Audit approach
- Air pollution: policy and audit findings
- CO₂ emissions: policy and audit findings
- Conclusions

Audit approach


- Analysis of:
 - EU-regulation, policy goals and measures
 - Ex ante evaluations of policy measures
 - Data on actual emissions (scientific institutes)
 - Emission reduction and costs of specific measures (external specialist)
- Case studies of policy implementation by local authorities
- Period: 1999-2007

Air quality: the problems



- European limit values for dust (pm) and NO₂ are exceeded
- Leading to:
 - Harmful effects on human health
 - Ban on building and infrastructure projects
- Road traffic has an important effect on local concentrations

Policy goals and measures

- 
- Goal: comply with EU limit values and solve problems with spatial planning
 - National measures for road traffic:
 - Subsidies for latest Euro norms
 - Subsidies for soot / particulate filters
 - Local measures:
 - Low emission zones
 - Traffic circulation
 - Low emission public transport

Air quality: findings I



- Large differences in cost effectiveness (€/kg)
- retrofitting filters in existing vehicles expensive for government
- Measures that focus on new vehicles are more cost effective
- Cost effectiveness had a limited role in policy dev.

| | Users | Government |
|-------------------------------|--------------|----------------|
| Euro-4 & 5 trucks (subsidies) | € 46-77 p/kg | € 11-18 p/kg |
| Retrofit filters trucks | € 48-69 p/kg | € 154-221 p/kg |
| Retrofit filters cars | € 100 p/kg | € 265 p/kg |
| Filters new cars | € 28-43 p/kg | € 61-92 p/kg |
| Filters new taxis and vans | € 58-64 p/kg | € 20-23 p/kg |

Air quality: findings II



- Objectives not reached within the original timetable
- EC granted extra time to comply with limit values (5 to 6 years)
- Additional measures necessary
- It took 5 years to develop policy
- No attention for health effects below limit values

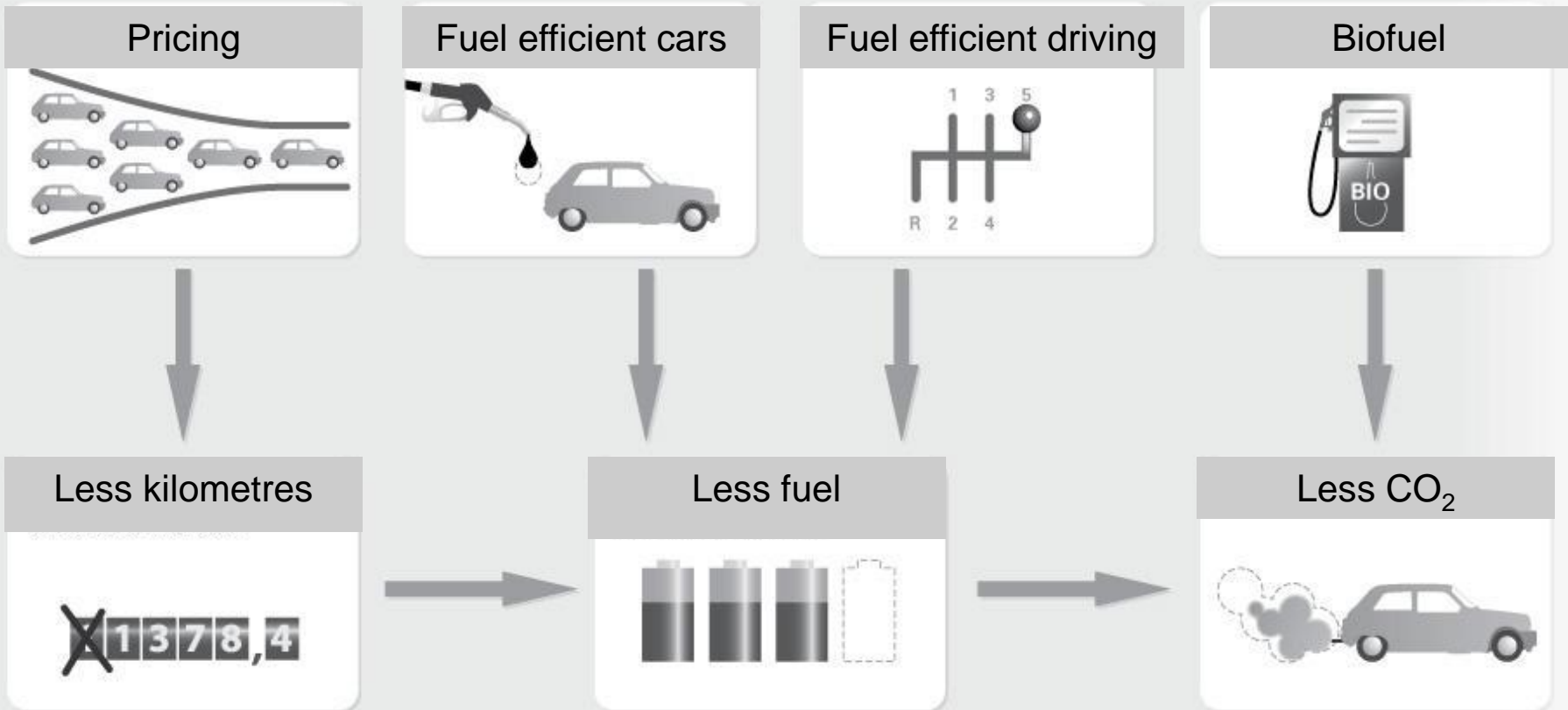
Fuel efficiency: problem and policy goals



- Climate change by growing emission of greenhouse gasses
- Policy goal 2010:
 - Comply to Kyoto Protocol: 215 Mton CO₂
 - Target traffic and transport: 38,7 Mton CO₂
- Policy goal 2020:
 - 20 % reduction (EU policy)
 - Target road traffic: 35,0 Mton CO₂

Fuel efficiency: policy measures

Policy measures



Policy result

Fuel efficiency: findings I



- Large differences in cost effectiveness (€/tonne)

| | Users | Government |
|----------------------------------|--------|------------|
| Biofuel | € 185 | € 0 |
| Promoting fuel efficient driving | € -400 | € 420 |
| Tax relief fuel efficient cars | € -800 | € 650 |

Fuel efficiency: findings II



- Feasibility of target 2010 uncertain
- Feasibility of target 2020 uncertain, additional measures seem necessary
- Effects of economic crisis uncertain

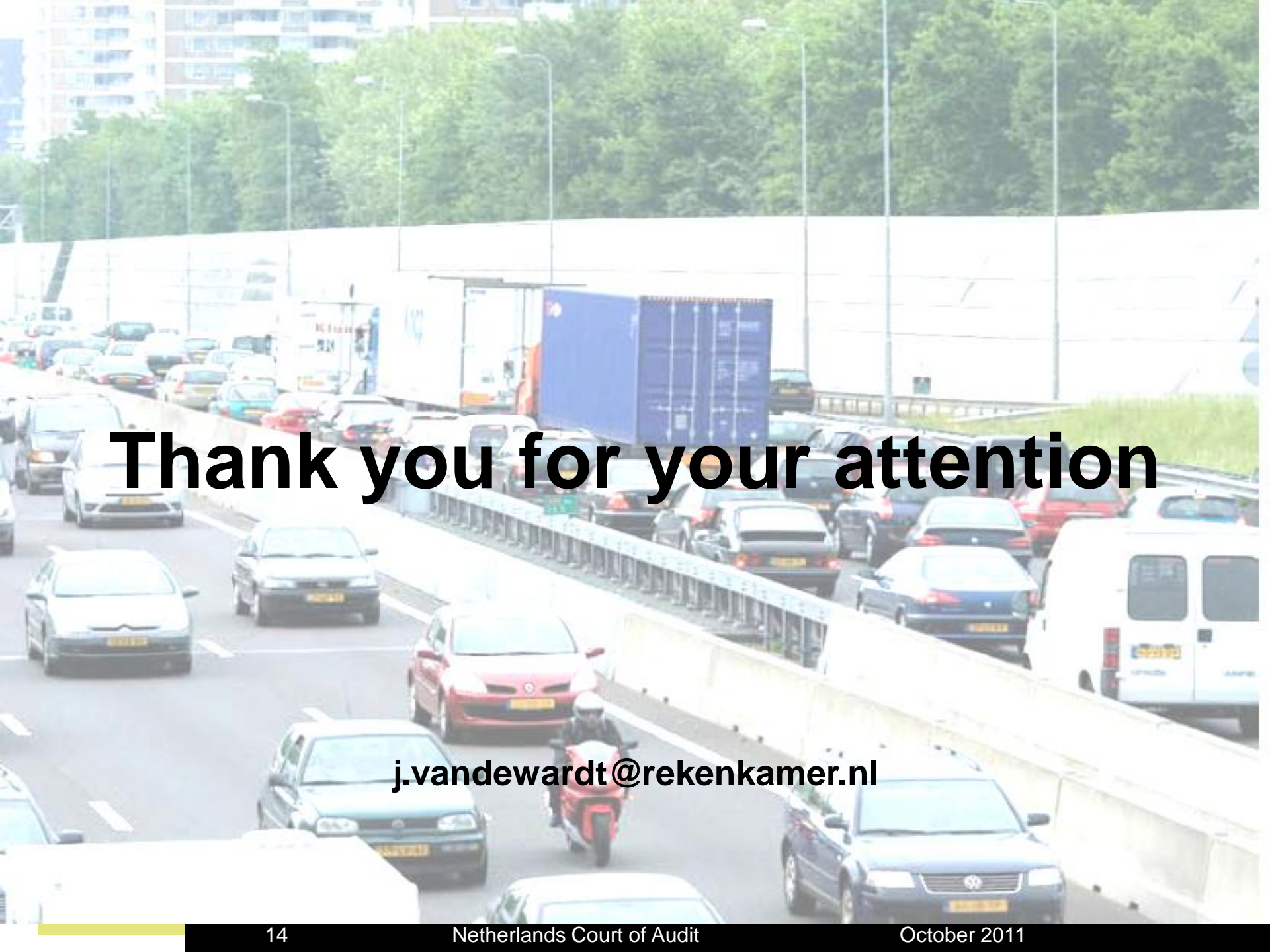
Fuel efficiency: findings III



- **Effectiveness policy 1999-2007 less than expected**
 - Plans for pricing not implemented
 - Policy for fuel efficient cars inconsistent
 - EU measures less effective than intended
 - Estimates include measures for which implementation is uncertain
- **Biofuel is effective but there is discussion about the environmental effects in the producing countries**

Conclusions

- Objectives not reached within original timetable (pm & NO₂)
- Uncertain if objectives will be met in time (CO₂)
- Little attention for uncertainty in prognoses
- Cost effectiveness of measures estimated ex ante but not ex post
- Large differences in cost effectiveness



Thank you for your attention

j.vandewardt@rekenkamer.nl