

Strategies to include urban transport in CO2 emission abatement policies

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Introduction

- GHG emissions in the EU, reduction objective -20% or -30% by 2020, but more by 2050...
- transport *must* takes its share
- aviation to be included in the ETS, maritime transport under scrutiny by the EC
- what about (urban / interurban) land transport?
 - road accounts for ~93% of EU national transport emissions
 - currently left to the responsibility of Member States (MS)
 - emissions standards, CO2 taxation of fuel or trading schemes ?

Which stakeholders?

- the road vehicle industry which influences specific emissions of *new* cars and trucks
 - emissions standards in EU and other countries
 - address only new cars, 15-20 years to fully develop
- transport end users: fuel CO2 taxation or...
 - proposal for tradable “fuel rights” for personal travel, allocated per capita (Raux and Marlot, 2005)
 - also for freight transport (at the EU level) (Raux, 2008)
- local governments which control the supply of transport infrastructure and services, and land use planning

How to involve local governments?

- how to measure their “CO₂ transport” performance?
- basic difficulty: *mobile* sources, and...
- administrative “vanilla-slice” in a same area
- need to reflect specifically the impact of *local* transport policy on distances travelled by autos
 - which depends basically on time / speed and costs (other than fuel)... and on alternatives (e.g. PT)
 - separate from the effect of unit consumption
 - ? VKT on networks + standard emission factor per km
 - drawback: contradictory policies between different areas

How to measure and assign liability?

- solution: index of overall volume of auto traffic
- but distances measured “as the crow flies”
 - quantifying the *spatial range* of trips, not routes chosen

$$I_t = \sum_{i,j} d_{ij} v_{ijt}$$

- v_{ijt} average daily traffic flow between Origin i and Destination j in year t
- estimated from OD surveys and traffic counts on road links
- the index development reflects increase / decrease of different OD flows v_{ijt}
- incentive to make a region cooperate with cities within its area in order to decrease overall index

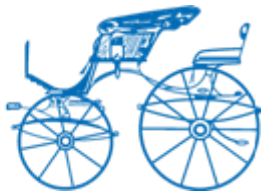
How a “city carbon index” would work?

- combined with standard emission factor per km, would give an index of emissions development from year to year: a transport “carbon index”
= indicator of the achievement of local government transport policy regarding CO2 emissions
- but also could be used for quotas debits / credits...
- according to a baseline negotiated with the central government
 - burden sharing between end-users, road vehicle industry and central / local governments



Conclusion / perspectives

- potential solutions for automakers and end-users
- need to also effectively include cities and other local governments in emissions abatement efforts
- proposal for a pragmatic approach
- technically workable for European countries
 - need to build a consensus on the validity of the measures (traffic counts + surveys + calibrating models)



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