

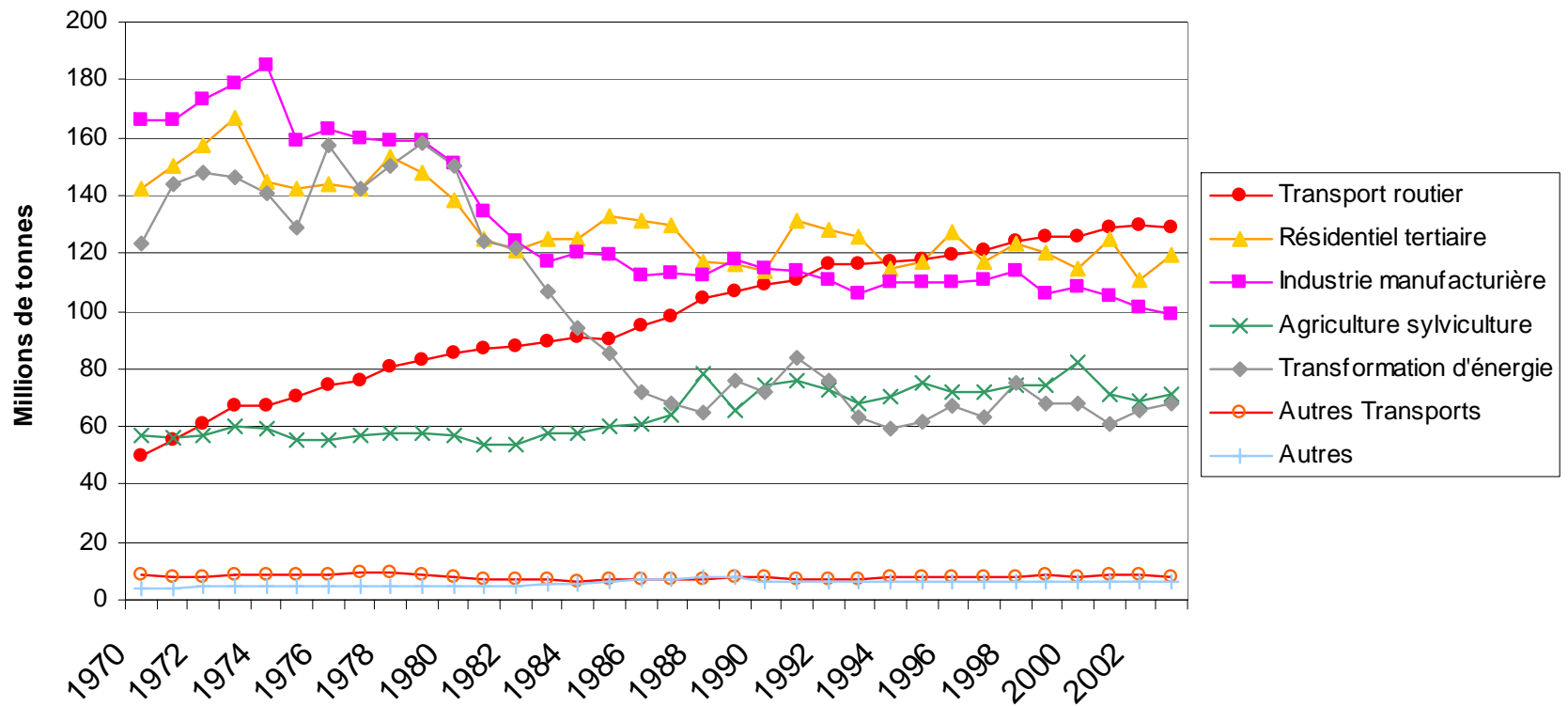
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How should transport emissions be reduced?

Potential for emission trading systems

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Emissions dans l'air de CO2 en France métropolitaine (1970-2003)



source CITEPA (2005)

Motivation

- focus on growing CO2 emissions from transport, "something should be done" on the demand side
- resistance to "CO2 tax" (fuel tax rebellion in 2000 in Europe) - or to congestion charging -, obstacle to effective implementation
- are there alternatives?
- explore tradable permits (TPs), i.e. "cap and trade", feasibility and efficiency
- yes, alternative, in fact "hybrid systems"

Tradable fuel rights for private vehicles

- possible allocation of free "fuel rights" per capita
- rights to be returned in proportion of carbon content of fuel purchased
- monitoring when fuelling at the pump with ATM / smart cards
- example: France, 2005, 27 billion litres of fuel, ~450 rights per capita = 5,600 km *solo* driving
- selling of unused rights = incentive to "do better"
- may coexist with conventional "CO2 tax" = "safety valve" (max price / tax)

Tradable fuel rights for freight transport

- rights to be returned in proportion of carbon content of fuel purchased at the pump or delivered in company tank
- rights transfer or payment negotiated between shippers and carriers, incentives on both
- possible free allocation to carriers (fixed per truck, on historical emissions for rail and air)
- scope: EU, all modes (road, rail, river, air and maritime)
- "safety valve" = "CO2 tax" + also applied to non-participants

Tradable driving rights in urban areas

- capping mechanism, limitation of congestion or pollution: rights based on trips or km driven, possibly modulated by vehicle emission category
- technically feasible and affordable, like electronic road pricing (RP)
- allocation of free driving rights to inhabitants: acceptability, advantage over conventional RP
- but loss of *potential* revenue for the local government: the "price to be paid" for *effective* implementation of traffic limitation

Critical issues, potential pitfalls

- allocation methods:
 - fixed free allocations (for households or for trucks)
 - avoid national rules (EU "bubble")
 - shippers: auctioning may raise revenues (but wise use?)
- price volatility: minimised with banking and "safety valve"
- hybrid systems: quantity-based approach + part auctioning + "safety valve"
- tax harmonisation: TPs easier to implement in EU

Conclusion

- quantity target: more attractive than "just another tax"
- potential for allocation of free fuel rights: pragmatic response to equity issues + additional encouragement to further abatements
- hybrid system: adds safety valve and auctioning
- possibility of phased implementation
- opportunity of *actually* include transport in the abatement effort...
- at the "price" of implementation costs