

CBA France: monetising non-priced effects

| | 1960 | 1970 | 1980 | 1990 | 2000 | 2010 |
|-------------------------------------|--|--------------------------------|--|---|---|--|
| National guidelines | 1st national guidelines CBA road projects | NG 1970 NG 1974 | NG 1980 NG 1986 | NG 1995 | NG 2004/05 | (NG2014) |
| Monetised non-priced effects | Time, safety, motorway comfort | Time, safety, motorway comfort | Time, safety, motorway comfort, energy (1980-85) | Time, safety, moty comfort, noise, air pollution, CO2 | Time, safety, moty comfort, noise, air pollution, CO2 | Time, safety, moty comfort, noise, air pollution, CO2, PT comfort, reliability; agglomn exties; upstream effects; (imperfect competn downstream) |

CO2

- 1995 : from ecotax project (EU Commission)
1 ton carbon = 74€2000
- 2005 : abatement cost (AQuinet's report)
1ton carbon = 100€2000 then +3 %/year from
2010
- CGSP commission's report (EQuinet)
1ton carbon = 100€2000 then +5,8% yearly
from 2010 to 2030 (tripled in 20 years), then
Hoteling-like

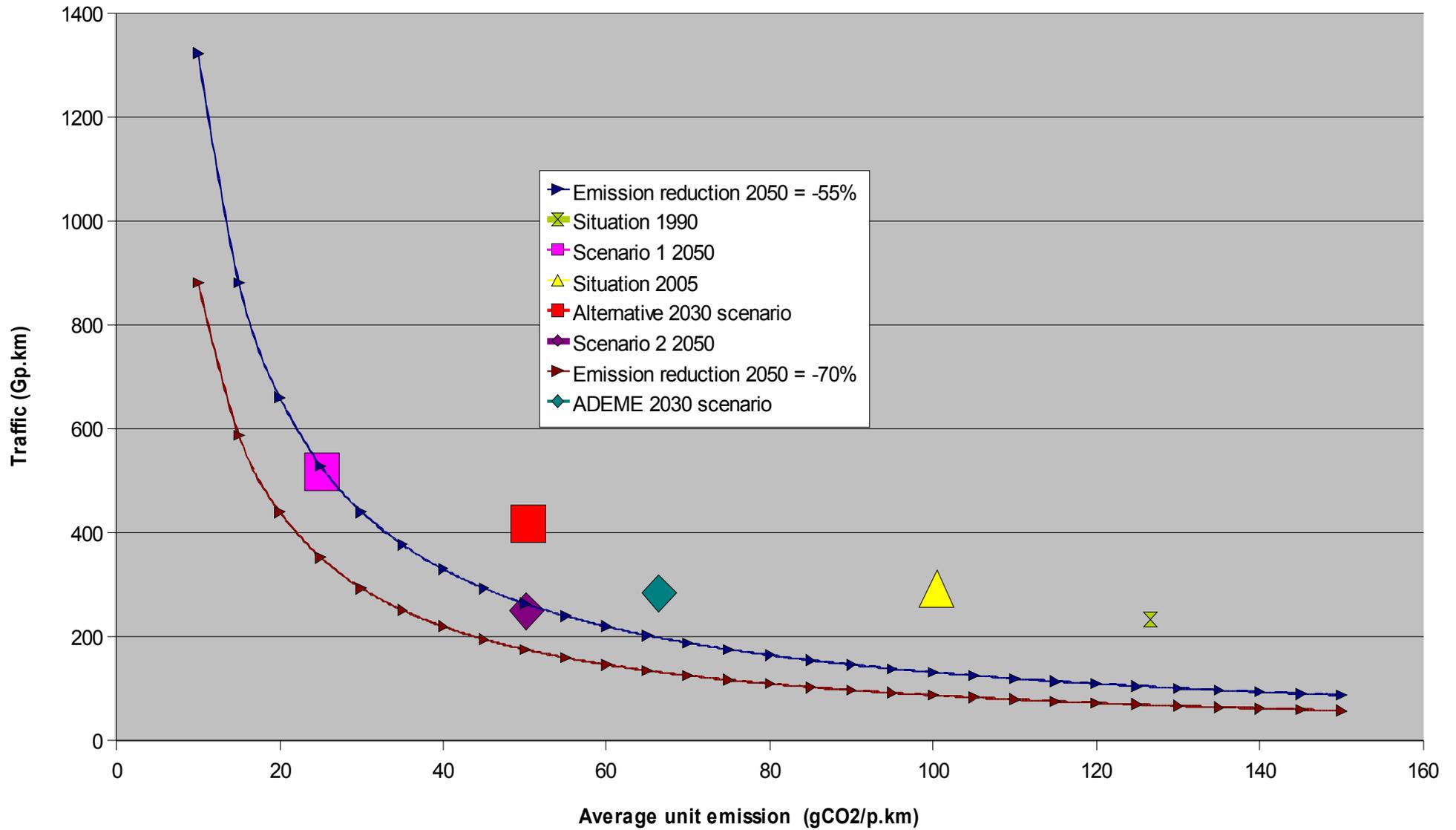
CBA France : evolution of long term issues

| | 1960 | 1970 | 1980 | 1990 | 2000 | 2010 | |
|--|--|------------------------------|------------------------------|------------------------------|----------------------------------|--|----------------|
| National guidelines | 1st national guidelines CBA road projects | NG 1970 NG 1974 | NG 1980 NG 1986 | NG 1995 | NG 2004/05 | (NG2014) | |
| Discount rate | 7 % | 10 % | 9 % then 8 % | 8 % | 4 % decrg 3 % without risk | (4,5 % lump vs 2,5%+b*2%) | |
| 1ton carbon= | | | | 74€2000 | 100€2000 after 2010,+3 %/year | 100€2000 then from 2010 to 2030, +5,8 %/year then Hoteling-like | |
| 1 ton carbon/each year is worth in € investt | - | - | - | 920 € | 9,800 € | 17,600 € | Over 140 years |
| | - | - | - | 910 € | 3,900 € | 6,100 € | Over 50 years |
| Uncertainty | traffic scenarios probabilized | contrasted traffic scenarios | contrasted traffic scenarios | contrasted traffic scenarios | contrasted traffic scenarios | (systemic risk ; complete scenarios) | |

CO2 vs infrastructure projects

- life-cycle analysis : CO2 emitted during construction may eat 30 % or more of avoided emissions through modal change
- mild to low impact of infra projects (SNIT : > 100 G€ investt for -2 to 3Mton CO2/year)
- decreasing returns with time and as other CC policies are successful (unit emissions especially)

Interurban road traffic



CBA France : ex-post studies

- systematic biases due to flat assumption on relative prices or performance ratios (safety ratios, CO2 emissions, maintenance costs)
→ need for reference scenarios
- evolution of competition conditions and/or pricing rules (HGV projects, Channel tunnel)
→ imperfect competition to take into account // ST effects and LT uncertainties
- revealed evolution of collective preferences (VoTime vs safety /pollution / GHG) : differentiation + evolution rules + horizon do matter