Assessing the Cost-Effectiveness of Environmental Policies in Europe

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Contents

• What is cost-effectiveness and why is it relevant?
• Ex-post cost-effectiveness requirements in EU environmental legislation
• Existing guidelines and manuals for assessing cost-effectiveness
• Some examples
• Conclusions and way forward
Outline of the project

- Carried out by Ecologic, eftec with support from IVM, September 04 - April 05 for the European Environment Agency (EEA)
- Ex-post cost-effectiveness analysis of European environmental policies
  - Legal requirements in EC law
  - Guidelines and manuals for ex-post CEA
  - Examples of applied ex-post CEA
- This presentation does not necessarily represent the views of the EEA
Cost-effectiveness analysis explained

- CEA is distinct from CBA:
  - CEA = achieve a given objective at least cost
  - CEA does not ask whether objective is worth achieving (as does CBA)
  - C-E can be assessed ex-ante and ex-post (focus of this project on ex-post only)

- Different types of ex-post CEA:
  - ex-ante / ex-post comparison;
  - cross-country comparison (benchmarking);
  - repeated application of CEA
C-E requirements in EU legislation

18 legislative items, 4 types of requirements:

- Non-environmental legislation (but with environmental impact) requiring CEA - 4 items
- Environmental legislation requiring ex-post CEA (or CE aspects) - 4 items
- Environmental legislation requiring ex-ante CEA (or CE aspects) - 6 items
- Environmental legislation requiring ex-post evaluation, but not (necessarily) CE - 4 items
C-E requirements in EU legislation II

Environmental legislation

Ex-post evaluation required

Cost-effectiveness considerations required

*only most relevant for the environment
Existing guidelines and manuals

• Academic literature tends to focus on CBA, mentioning CEA in passing
• Some tailored guidance on CEA for specific policies, e.g. Water Framework Directive
• Some general guidance on policy evaluation, not necessarily focused on economic tools
  • UK: Green Book
  • NL: Wegwijzer Evaluatieonderzoek
  • Commission: DG Budget, DG Regions
Existing guidelines and manuals

• Many useful elements in different documents, together provide good insights on ex-post CEA - but none that has it all.
  • General focus on ex-ante assessment
  • Work on ex-post evaluation does not necessarily cover cost-effectiveness
  • Few docs specific to environmental policy
  • Little focus on real-life difficulties
  • Good examples esp. from NL, UK, US
Case studies of applied ex-post CEA

- Non-exhaustive selection of (mainly) European (mainly) ex-post CEA
- 88 studies surveyed, 17 analysed in-depth
  - e.g. biodiversity management in Scotland
  - US evidence on CFC phase-out
  - CO2-based taxes in European countries
  - IMPOL studies on large combustion plant Dir, Municipal Waste Incineration Dir, EMAS
  - Dutch Manure and Fertiliser Policy
Lessons learnt from Case Studies

• Diversity of topics covered
• Diversity of methods and shortcuts applied:
  • Few studies have applied discounting
  • Importance & difficulty of defining a baseline
  • Sensitivity testing only in some cases
  • Marginal abatement cost taken as proxy for compliance cost
  • Effects on national economy blended out
• Results presented in qualitative form
Summary CEA in environmental policy

• Ex-post evaluation has been around for a while, but systematic C-E assessment of environmental policy is still fairly recent
  • some experiences in UK, NL
  • little on EU level so far
  • few cases where ex-post CEA is an “institutionalised” part of the analysis

• Ex-post CEA traditionally applied to
  • projects rather than policies & programmes
  • health care issues rather than environment
Challenges and issues in ex-post CEA

• Causality between policy measures and observed effects / blend out other influences

• Data gathering - much more difficult ex-post unless monitoring existed up front

• Moving up to higher (spatial/temporal) scale of analysis: increases uncertainty

• Other issues:
  • which cost types to consider,
  • intermediate / final goals (pressures/impacts)
Conclusions

• Ex-post CEAs differ in scope, level of detail and methodological rigour
• No single “common approach” to ex-post CEA across countries or policy issues
• Ex-post evaluation requires clear targets and good data - both difficult to find ex-post
• Guidance required for “real-life solutions”: methodological shortcuts to deal with time & political pressure, data gaps etc.
Conclusions II

• Link to the EU Commission procedure for impact assessments
  • Integrating C-E assessments into the policy process (rather than up-front only?)
  • Ex-ante assessments need to define issues, monitoring and reporting requirements with view to ex-post assessment
  • What can be learned from ex-ante / ex-post discrepancies?
Thank you for your attention.

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