

Environmental Economics

Fourth Canadian Edition

Field • Olewiler

Chapter 9

Criteria for Evaluating Environmental Policies

ECON 260
Environmental Economics

Learning Objectives

- LO1 Explain why a cost effective policy minimizes total abatement costs.
- LO2 Explain the criteria in addition to efficiency that can be used to assess environmental policies.

Five Primary Policy Criteria

Five Primary Criteria as outlined:

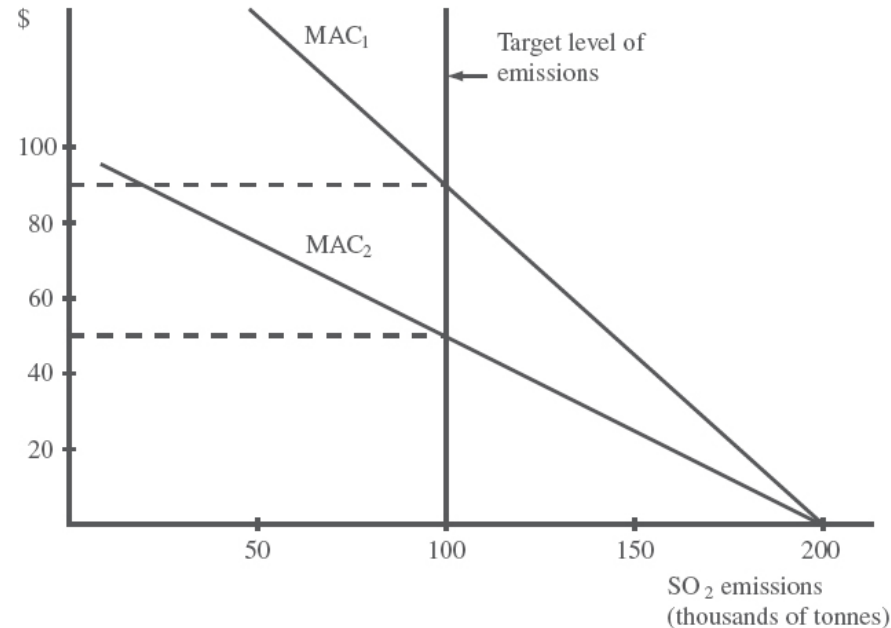
1. Efficiency and Cost-Effectiveness
2. Fairness
3. Incentive effects
4. Enforceability
5. Morality

Cost Effective and Efficient Policy

- A policy is cost-effective if it produces the maximum environmental improvement possible for the resources being expended or, equivalently, it achieves a given amount of environmental improvement at the least possible cost.
- An efficient policy is one that moves us to, or near, the point where marginal abatement costs and marginal damages are equal.
- For a policy to be efficient it must be cost-effective, but not necessarily vice versa.

A Cost-Effective Policy Minimizes Total Abatement Costs for a Given Pollution Target

- Figure 9-1



- With a cost-*in* effective policy the perceived marginal abatement cost is the higher one, MAC_1 , whereas with a cost-effective approach marginal abatement costs is MAC_2 .
- Achieving cost effective policy at MAC_2 reduces wasted resources, increasing the policy feasibility in the public eye.

Why is efficiency important?

- It is estimated that more efficient policies might reduce the amount spent by 50% for the same amount of pollution control
- Or, we could have much more pollution control for the same amount of spending
- Command and Control policies such as standards tend to be less efficient than market based approaches such as TEPs and Environmental Taxes (as covered in Chapters 10-14)

Evaluating Environmental Policies

- There are many possible criteria, besides **efficiency**, that decision makers use to assess environmental policies.
- We focus on these four because they can help compare the relative merits of different policies.
 - 1) Fairness
 - 2) Incentives for innovation
 - 3) Enforceability
 - 4) Moral considerations

Fairness

A policy's **fairness** considers who pays and who benefits from a policy

- A regressive policy impacts low income people in a negative way
 - Examples: A tax or restriction on owning older cars. It may be good policy based on efficiency to reduce the number of older cars because they produce more pollution per km driven compared to newer cars, but low income people are more likely to drive older cars and thus will be hit harder by this policy.
- A progressive policy imposes the greatest costs on high income people.
 - The carbon tax in British Columbia includes a rebate to low income people. Thus the tax is higher on people with higher incomes.

Incentives for Innovation

- A policy that gives incentive for private firms to devote resources to find lower cost ways to reduce pollution can lead to lower costs of abatement.
- Reducing the cost of abatement shifts the MAC left (down), making it cheaper to secure emission reductions.

Enforceability

- Enforcement of environmental laws is often extremely costly, in terms of time and money.
- In addition, if a policy can not be enforced, pollution is unlikely to fall under the policy.
- It is important to consider how a policy monitors polluters for compliance and imposes punishment. The easier it is to monitor emissions and enforce controls under a policy, the more pollution will be reduced and at a lower cost.
- Regulators will often require self reporting from firms and will periodically perform audits to ensure the records of emissions are accurate, thus keeping enforcement costs low.

Moral considerations

- The way people feel about a particular issue can influence the type of environmental policy governments enact.
- Each person has a different idea about what is “moral”, therefore it can be difficult to determine whether or not a policy meets a morality condition.
- For example, a person may feel that a tax on a firm that pollutes is good because the firm is required to pay for the pollution it is creating, but this may not be the most efficient way to reduce emissions.
- If a subsidy were given to polluters to reduce emissions, this may achieve a faster reduction, but may be seen as bad because the polluters are being rewarded for polluting.

Questions

- Should “political feasibility” be a criterion in designing environmental policies?
- Besides having different impacts on people at different income levels, environmental policies could also have varying impacts in different regions of a country. How might a federal policy, applied uniformly across a country, have different impacts in different regions? If a province opposes a federal policy, should it be allowed to opt out of the policy?
- Is it more important for a policy to be efficient, or for it to meet another criteria such as fairness?

Chapter Overview

- This chapter provided an overview of a number of criteria that may be useful in evaluating environmental policies.
- They are as follows.
 - Efficiency and Cost Effectiveness
 - Fairness
 - Incentives for Innovation
 - Enforceability
 - Moral Considerations
- With these criteria, it is now time to examine different types of environmental policies.