

Environmental Tools:

Pollution fees and taxes

What is a pollution fee?

A pollution fee is a payment based on the quantity of pollutants discharged into the environment. A regulated party pays a fixed amount for each unit of pollution emitted or disposed. Fees can apply to air and wastewater emissions and solid wastes. Parties can choose to emit pollution and pay the fee or install controls to prevent or reduce pollution and avoid the fees. Ideally, parties concerned with minimizing costs will control or reduce emissions to the extent that controls and abatement cost less than paying the fee. Pollution fees do not limit emissions but do impose a direct cost intended to achieve pollution reductions and internalize in markets the costs to society of environmental degradation. As with regulations, pollution and environmental fees need effective regulatory and environmental management.

Where do funds collected from pollution fees go?

Although fees are a useful incentive to reduce pollution, most collected revenue goes to finance pollution abatement programs. Revenue from environmental fees is sometimes directed towards special funds earmarked for environment/conservation activities. In Europe there has been experience in offsetting pollution fees and taxes by reducing other non-environmentally related taxes, such as payroll taxes.

Where are they used?

This tool is normally applied to air and wastewater emissions, toxic and solid waste, and has been applied throughout the world to encourage the minimization of pollutant discharges. Examples include:

Wastewater

- Fees for wastewater discharges by households and businesses to publicly owned (municipal) treatment plants.
- Direct discharge fees by point sources, which need permits to discharge effluent. Fees vary depending on volume and toxicity.
- Storm water discharges from real estate development based on surface area runoff.

Air Emissions

- Air emissions fees based on the quantity of pollution emitted (e.g. in Maine, fees are the same for emissions of SO_x, NO_x, VOCs and particulate matter; in Southern Carolina fees vary, depending on the pollutant).
- Sweden has effectively operated a carbon tax since 1991, which has proven effective in reducing CO₂ emissions and provided opportunities for tax reductions in less carbon intensive, in particular biomass energy development.

Solid waste disposal

Many municipalities employ a waste disposal fee to discourage waste generation and fund the infrastructure needed to manage waste pick up and disposal infrastructure. These fees can be applied to household waste collection (fee per bag picked up), landfill taxes (based on weight), and/or hazardous waste disposal fees.

Tool Performance:

Pros

- Fees are effective tools for managing the environment because they associate cost with polluting activities. They also allow regulated parties that pollute to save money, and create net social benefits, by reducing the amount of pollution they emit.
- Even at low levels, fees provide incentive and may be helpful in raising awareness of the costs of pollution.
- They help support the “polluter pays” principle by placing a cost on emitters.
- Provide an opportunity to “tax shift” – away from activities that serve a public good to those that are socially inefficient (pollution).
- A fee system allows for flexibility in the way parties respond, which has the potential to reduce costs. A system combining fees and standards may be best of all, since standards provide a greater outcome certainty than price signals alone.
- Fees encourage the development of new technology because industry has continuous incentive to reduce emissions.
- Taxes and fees promote “static efficiency”, in that they help equalize the marginal abatement costs between different polluters. This leads to environmental improvements at the lowest possible cost to society.

Cons

- In most applications and examples, fees and taxes are typically not large enough to strongly influence behavior or environmental performance.
- An emission fee or tax provides the regulator with limited control over how much is emitted.
- Designing pollution fees and taxes that minimize the total cost of pollution (environmental damage cost plus control costs) is difficult because:
 - There is a lack of data on pollution damage;
 - The ability to precisely measure emissions is difficult;
 - There is political opposition to large revenue transfers from polluting organizations to government or authorities imposing fees and taxes.
- Controlling emission levels is difficult because there is no guarantee how each polluting party will respond to fees.
- In some jurisdictions, pollution fees and taxes can be politically contentious.
- There is a cost for industry to monitor emissions (to determine the fee payable) and for government to evaluate the data and set the rates.
- Traditional forms of pollution regulation typically allow a firm to release a certain amount of pollution (that is socially acceptable) for free, whereas under a pollution fee or charge system firms are required to pay for the release of pollutants even after specified emissions levels have been achieved.

Special Considerations:

An effective pollution fee should:

- Reflect the environmental cost of pollution.
- Accept a relation to marginal abatement costs faced by the polluting organization.
- Start small but increase gradually and predictably over time at a rate that allows market participants to consider the tax in their capital investment and planning decisions.
- Be high enough to induce investment in pollution reduction activities.
- Generate useful amounts of revenue for clean-up actions.

Other Considerations

- Pollution fees often need to be administered as part of an overall system of regulation.
- A well-developed monitoring and measuring system is a condition for successful pollution fees.
- Pollution fees are effective if the polluting organization has to bear the cost itself rather than passing the costs on to consumers.
- Progressive increases in fees are useful in allowing polluting organizations to adjust their processes over a period of time.