



ENVIRONMENTAL ECONOMICS Harvard Case Solution & Analysis

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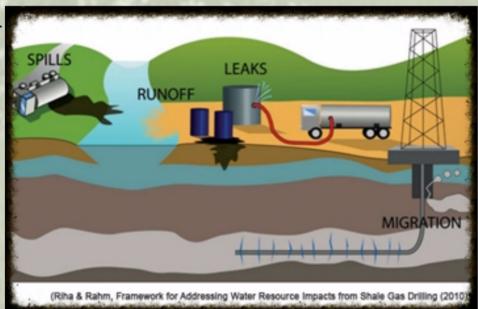
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Competitive Markets and Environmental Efficiency

- Air and water are shared resources that generally are not priced in the marketplace. The result is that markets often treat these resources as if they were free, resulting in their overuse.
- Buyers and sellers consider only their personal or private benefits and costs, ignoring benefits and costs to third parties (external benefits and costs or externalities).

Examples of Common Externalities

- X Noise pollution from cars or lawn mowers
- Sulfur emission from coal-burning electric power plants
- X Air pollution from automobiles
- X Groundwater contamination from natural gas
- X Extraction done by fracking
- X Effect of cigarette smoke on nonsmokers
- Farmers use of pesticides that wash into soil and water
- Externalities can be positive as well as negative



- Environmental regulations force market participants to include externalities in their decision making. For example, U.S. regulations prohibit the use of CFCs (chlorofluorocarbons) in air conditioners, aerosol cans, and other products.
- A different approach is that instead of mandating the technology to achieve the goal, the government can specify the goal, but leave the method up to the firm. For example, a steel company wishing to expand can buy up old cars and retire them as a way of reducing emissions (Substitute new, high-mileage, low-polluting vehicles in place of old, low-mileage, high-polluting vehicles)

- > PRIVATE BENEFITS & COSTS Benefits and costs to the decision maker, ignoring benefits and costs to third parties.
- SOCIAL BENEFITS & COSTS The sum of benefits and costs to everyone in society, including both private benefits and external benefits.
 - Social costs include private and external costs
- In a perfectly competitive market, consumers perceive all products as identical; (with some exceptions) they will not pay more for environmentally friendly product where there is less expensive, not environmentally friendly substitute.
- COMPETITIVE MARKET INEFFICIENCY WHEN EXTERNALITIES EXIST In competition, only firms that choose the lowest-cost method of production will survive. Firms that choose higher-cost methods will lose money and eventually exit the market.
- FREE RIDER Individual who enjoys benefits without paying the costs. Example: Consumer is more likely to choose cheaper and not environmentally friendly lawn mower and hope to benefit from environmentally friendly mower his neighbor is willing to buy.