

TRUE COST ACCOUNTING

www.obedwatershed.org Obed Watershed Community Association November 2009

Current Pricing focuses on cash flow rather than asset value and the quality of life. Our society holds that “the lowest price at any cost” and the “highest return at any risk” are the best choices we can make. Our way of life equates success with maximizing consumption of goods and services.

True cost accounting attempts to include all the costs and benefits of products and services, including social, environmental, and economic concerns. It fully accounts for all the financial impacts, resource depletion, and environmental and social costs and benefits. These costs and benefits need to be exposed and valued in monetary terms in order that the full social cost of a product or service is properly known. Economic policy and technology decision-making must reflect that knowledge if we as a species are to survive on this planet.

Value of True Cost Accounting: Changes in prices immediately change behavior. By including in the price the harm done to the natural environment and other people by products or services across their full lifetime, we can transform the destructiveness of humans. True cost accounting encourages polluters to find solutions to problems before they become critical. The market should work to minimize or eliminate costs to the public and to taxpayers. Market transparency is the most powerful and effective way to succeed in these efforts.

Externalities

Externalities: All technologies are accompanied by externalities, costs imposed on individuals or the community that are currently not paid for by the producer or the consumer. External costs include pollution, disease and other health impacts, social impacts, and depletion of natural resources. They include local, regional, and global costs that may be incurred now (immediate death of fish from toxic spill) or in the future (long-term health effects of the toxic spill.)

Burden of Externalized Costs: Because these environmental and social side effects are not included in what we currently pay for a product, externalities impose costs on third parties through their impacts on climate, the environment, human health, crops, structures, biodiversity, and future generations. Examples include,

- A toxic waste of a manufacturing process is released into the water. The cost of cleanup is born by taxpayers and by people who experience health problems.
- Manufacturers over-package products that the local community pays to dispose of in landfills.

Perceptions of Externalities: Even though not currently counted, public perceptions of externalities can influence technology choices. The range of public attitudes to fossil fuels, wind, solar and nuclear energy provides examples. In some cases, externalities can dominate these perceptions. Many consider nuclear power unacceptable because they perceive that the risks of radiation hazards, nuclear accidents, nuclear waste and spent fuel disposal, nuclear transport, and the threat of terrorism and proliferation make nuclear power generation an unacceptable power supply option.

Federal Assumption of External Costs: In the past, the federal government has assumed responsibility for many external costs that distorts the market. It is bad enough when a polluter does not have to pay for the problem. It becomes worse when the taxpayers compensate the victims and then do not recover the costs from the guilty party. Government policies and programs often shield the guilty parties from litigation.

Government Subsidies provide perverse incentives for waste and misuse. Subsidies include direct payments, below cost services, tax credits, indirect payments, insurance against predictable risks, and

protection from liability. Perverse subsidies need to be identified and eliminated for the true costs of human activities to become transparent.

Internalities: The cost of an external impact like climate change is *internalized* when it is included in the price of a product. If TVA had included the cost of the Kingston Coal Disaster cleanup into its current operating budget, the cleanup costs would have been reflected in a rate increase. Instead, TVA is borrowing money for the cleanup, transferring the burden of the cleanup to a future generation of ratepayers that will receive absolutely no benefit from the process that generated the ash in the first place.

Beneficial Externalities

Ecosystem goods and services include many positive economic benefits that are excluded from current markets and from social, political and investment decision making. These benefits should be counted and evaluated, particularly when these ecological goods and services are diminished or destroyed. Nature's services far exceed in value all the economic transactions of human activity. The public may find it sensible to pay for some of these services to keep them functioning well and to reduce public costs.

- Street trees buffer sounds, clean the air, improve health and reduce air conditioning costs.
- Forests provide oxygen, flood control, water collection and purification.

Social Capital has been neglected in calculations of benefit. Most of a society's wealth is in its citizens. Are they healthy and well educated? Are they productive and engaged? Are communities cohesive and supportive? A community that values education, well-being, and citizenship has greater social capital than one that does not.

Non-valued Labor: Approximately half of the labor in developed countries and 90% of labor in undeveloped countries go unpaid. Not counting this value, we misunderstand society and the economy. Examples on nonpaid labor include care of family members, homemaking, home gardening, and volunteering.

Asset Valuation: Our current accounting system does not include the value of private and public assets. Unsustainable use of farms, forests, groundwater, infrastructure, or fisheries has led to severe declines in asset value, but these are not currently included on balance sheets. The decline in natural and human-designed infrastructure from age and over-use is not counted. Neglecting maintenance can improve the bottom in the short-term, but the costs eventually will have to be paid.

Transparency:

Labeling: Consumers and investors need better information to make better choices. Consumers will benefit from improved labeling and more complete information when presented in a manner that is easy to understand.

- Houses could have an energy label to assist home shoppers to know the house's energy consumption.
- *Energy Star* labels assist shoppers in purchasing energy efficient appliances.
- Labeling used by certification programs assists consumers in purchasing products that are sustainable and healthful.

Corporate Sustainability Reports: Better information for investors is becoming more available as companies begin to prepare and publicly display sustainability reports.

Analysis

Life Cycle Analysis: Battery-powered electric vehicles, with no tailpipe emissions, are sometimes unquestioningly regarded as pollution-free and environmentally friendly. While the vehicle itself generates no emissions, the 'pollution-free' claim is wrong because it ignores the emissions at the power station where the electricity needed to charge the car's batteries is generated and the cost of disposal of battery waste. With

electricity generation, external impacts can arise at many stages: in the exploration, mining and transport of the fuel; during the construction or manufacture phase of the generation plant and its components; in the operation of the generator; in the course of delivering or storing the electricity; or in later recycling or disposal stages.

Externalities arise at many points in the sequence of a technological process. Identification of all externalities requires a full life cycle assessment of all processes, inputs, outputs and secondary activities needed to produce and distribute a final product for end use. A simplified life cycle assessment considers every impact a product has during its lifetime, including resource depletion, air pollution, water pollution, land degradation, release of toxics, ecosystem damage, global warming, and health and social costs. Transportation costs are usually a large part of each of these effects and contribute to the degradation of the environment, ecosystem, and public health.

Material Flow Analysis: It is important to track materials so that impacts that may occur can be determined as well as evaluated. To develop the accounting tools to determine these costs we need to know how and where products are made, how they are used and maintained, and where they go at the end of their lives. We then need to identify and understand the impacts and costs of products during their lifespan.

Ecological Footprints: Industrial products typically carry nonrenewable ecological footprints that average about 30 times their own weight. Consumers, thus, derive value from less than 5% of the nonrenewable natural material that is disturbed in the environment to make a typical product.

- 100-200 pounds of natural material is disturbed per pound of computer.
- One catalytic converter requires the disturbance of three tons of nonrenewable resources, largely to mine and process the platinum.

Energy intensity of an economic activity is defined as the amount of energy consumed to produce one unit of output. For an economy as a whole, the energy intensity can be calculated as the energy consumed per unit of GDP. Energy intensity depends on many factors, including the structure or mix of activities in the economy and the relative values of different sectors, as well as the technical efficiency of energy use. Trends in energy intensity for a particular economy can give insights into the prospects that improvements in energy efficiency, as distinct from growth in energy consumption, can contribute to economic growth

Green Accounting

Leveling the Playing Field: Externalities take many different forms, yet they ought to be considered and compared on some kind of common basis to determine rationally the relative merits and costs of a product or service. Ascribing monetary values to the externalities is a relatively recent field of economic research that is already having a significant impact on especially energy policy.

Uncertainties: Ascribing a monetary value to external impacts on climate, health, biodiversity and other environmental qualities is acknowledged to be a complex, imprecise, and subjective exercise. Assigning a value to ill health or a life lost is in itself a controversial topic. Valuations of future costs depend greatly on the discount rate chosen, adding another source of uncertainty. There are those who claim that the degree of uncertainty inherent in valuing externalities means that efforts at their quantification are not worthwhile.

However, uncertainty is not a reason for neglecting economic valuation of externalities. For instance, any policy decisions in response to global warming (the most prominent area of uncertainty) will contain implied economic values anyway. It is better to be as explicit as possible about the numbers rather than continuing to ignore externalities.

ExternE, a research organization supported by the European Union, has contributed the major body of work on energy externalities. Research teams include economists, environmental scientists, epidemiologists and other health specialists, engineers and energy technologists, atmospheric chemists located throughout the EU. The impacts covered include climate change, human health, crops, biodiversity and structures.

Green Accounting Framework: The idea is first to measure the damages to society that are not paid for by its main actors - producers and consumers. These damages are assigned a monetary value and then charged to the producers and consumers.

A ranking of technologies can be made according to their social and environmental impacts. Internalizing external costs, by taxing the most damaging technologies or by subsidizing the cleanest and healthiest ones, can give an impetus to new technologies and could help to achieve a more sustainable world.

Methods to Improve Accounting of Externalities

Impact Fees: An impact-use fee linked to sales of products would provide funding to mitigate the costs of externalities. An impact-use fee linked to gasoline would compensate for health care related to accidents and pollution, mitigation of stormwater runoff from roads and parking lots, air pollution, other environmental damages, and wars fought for oil.

Fees as Insurance Against Future Risk or Uncertainty: Many external costs are long term, dispersed, and uncertain. One possible solution is adding externality insurance to environmental and social impact fees. For a material proven to be harmful whose costs are incalculable, the insurance fee should be related to the magnitude of potential risk. A landscape company that sells potentially invasive species should be assessed an insurance fee to pay for its potential eradication in natural areas and ecosystems. Using insurance fees instead of prescriptive relations creates incentives for innovation and encourages the use of less hazardous alternatives. Fees also provide flexibility to users - if something is really needed, someone will be willing to pay for it.

Adders are cost elements (such as administrative costs and profit margin) that are added to an initial cost estimate by a fixed amount or percentage. Externality adders could be used to calculate a GDP that accounts for resource depreciation and environmental damage, correcting the current omission of externalities in the way the GDP is currently calculated.

Information Feedback: True cost accounting can be very informative and can help change behavior even before changes in price can be brought to the market. Simply installing water meters reduces water use even without changes in water cost.

Importance of True Cost Accounting

Externality valuation can be used in economic policy:

- for making investment decisions that ensure that the full social cost of technologies, products, and services are considered in project planning.
- for estimating environmental taxes, such as a landfill tax.
- for incorporation into national accounts.
- for raising awareness. The exercise of identifying and evaluating externalities draws attention to the fact that all human technological activities have externalities that can create economic inefficiencies.
- for setting environmental policy priorities.

The Way Forward: Citizens involved in policy or planning processes can press for true cost accounting for responsible and sustainable decision-making. Valuing our Earth and putting a cost on its degradation will transform human activities and heal our planet and life on it.

The Obed Watershed Community Association has as its purpose the protection and enhancement of the natural and cultural heritage of the Obed River watershed within Cumberland County. Louise Gorenflo, OWCA community educator, produced this fact sheet. Those wanting to join this membership organization or more information may contact Dennis Gregg, OWCA Director at 484-9033 or at 185 Hood Drive, Crossville, TN 38555.