

DIGITAL DEVELOPMENT DEBATES

Governments and Businesses Attempt to Build a New, More Accurate Economy

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Our modern world is built around the concepts of neoclassical economics à la Adam Smith's *The Wealth of Nations*. Development policy as practiced by the big institutions such as the World Bank and the International Monetary Fund has by default hewed to this "reality." But now ecological economists are innovating new markets, encouraging us to think about the world in a different way — and some businesses are beginning to listen.

Smith wrote his seminal book prior to the Industrial Revolution, when the world had abundant natural resources and just 700 million people. Smith and the economists who followed him took those resources for granted and therefore didn't count them.

Of course, they were aware of the marketable goods the natural world provides, such as fish or lumber, but often these were just taken outright — fish still are. However, the natural world also provides less obvious benefits derived from the physical, biological, and chemical processes in natural ecosystems. Ecological economists call these benefits ecosystem services, and they include things like nutrient recycling, flood risk reduction, water cleaning and storage, climate regulation, and maintenance of biodiversity. Without these humans could not survive.

But the "free-market" capitalism that Smith spawned does not recognize this value. Indeed, it is actually not free; it is skewed to favor those who game the market by buying access. It is this reality to which the "Occupy" protesters are trying to draw attention and change. Those who lose in this current system are animals, ecosystems, and poor people.

This economic frame for viewing the world, which many human societies have practiced or aspired to for the last 300 years, has resulted in companies getting valuable resources like water for practically nothing and externalizing costs like pollution onto the world. Unfortunately, when economic activities damage ecosystems, it is usually the poor who depend upon them and who have little recourse who suffer. A classic example is Texaco's dumping of oil sludge into a remote Amazon river that had previously sustained the lives of local indigenous people.

Now centuries of damaging human economic activities, coupled with rapid population growth (now up to 7 billion humans!), have led to increased pollution and destruction of life-sustaining ecosystems. It has gotten so bad that we are beginning to notice the rapid decline of healthy soil, clean air and water, and insect pollinators that make our food production system possible.

In the past year we've seen the dramatic consequences of our failure to mitigate the emissions that are causing climate change. Extreme weather has hit around the world: unprecedented droughts in Russia, China, and Texas and extreme floods in Australia, Pakistan, and all along the Missouri and Mississippi rivers in the United States.

And now businesses are beginning to pay the long-overdue price for the damages they cause, a price that they have long "externalized," or shirked. The extreme weather caused many businesses financial losses. For example, the Texas drought devastated the state's cotton crop this year, and apparel retailer Gap Inc. cut its annual profit forecast by 22 percent in anticipation of higher cotton prices, according to a report from Ceres, a U.S. coalition of investors and public interest organizations.

Of course, our current economic system is not the only way to interpret the world. Many indigenous cultures had deep knowledge of the ecosystems in which they resided and could recognize when they needed to limit their extraction of resources to maintain healthy ecosystem function — and leave enough for neighboring people. For example, native Americans in the western United States would leave enough salmon in the river for both the people downstream and for the salmon to effectively reproduce.

Putting those ideas in modern terms, ecological economists argue that the environment is not a subset of the economy, but rather, the market is a subset of the global environment. This is common sense if you think about it: all the goods and services we trade ultimately depend on natural resources and processes.

In 1997 Robert Costanza, director of the Gund Institute for Ecological Economics, calculated that the value of the services provided by the world's ecosystems were almost twice that of the combined GNPs of all the nations of the world, or \$33 trillion that year. He reached that figure by calculating how much it would cost to manufacture those services should they no longer exist. For example, regions running short on water are now turning to desalination, a very expensive proposition.

Other thought leaders in ecological economics include Joshua Farley, Gretchen Daily, and Herman Daly, who used to work at the World Bank but is now a sharp critic.

In general these thought leaders support ecosystem markets that assign a monetary value to these ecosystem services previously considered free. The idea is to funnel money from entities that consume or destroy ecosystem services to those who restore or provide them, thereby funding restoration and monetarily disincentivizing destruction.

These ideas are beginning to play out in various policies and programs.

The Economics of Ecosystems and Biodiversity study (TEEB) on the economics of biodiversity loss, published in 2008, initiated by the G8+5 environment ministers, recommended ecosystem valuation to help leaders make better decisions.

President Bharrat Jagdeo of Guyana is trying to develop his country's economy using environmental economics. Guyana is covered in pristine rainforest. In 2008, Jagdeo had McKinsey and Company calculate how much his country would earn from logging the trees and farming or mining the land, the typical path for development. He then said that if the world valued his country's rainforests as a carbon sink, a storehouse of biodiversity, **a generator of rainfall** as far away as the Midwestern United States, then it should pay for those services. The proper fee, he said, was an "economically rational baseline"; that is, the amount Guyana could otherwise earn by pursuing the standard development path. This was not blackmail, as some of his critics alleged, but an attempt to accurately value human activities and an opportunity to support a new type of development.

Other people have also attempted to bring the true cost of environmental degradation into our economy. For example, in the United States, hunters frustrated by dwindling duck numbers advocated for wetland protection. President George H. W. Bush signed the first cap-and-trade mechanism as part of the Clean Air Act of 1990, putting a cap on the amount of sulphur and nitrogen oxides that industry can pollute, and letting the private sector innovate the most efficient way to meet the cap.

When the program was introduced, industry howled that the environmental regulation would put them out of business. Instead, the program reduced acid rain for 85 percent less than industry had projected. It also saved local communities more than \$122 billion per year in reduced health costs and cleaner lakes and rivers, according to a study by the Journal of Environmental Management.

There are also some nascent efforts at markets in the United States for clean water cap-and-trade programs, although various states and the Environmental Protection Agency are still trying to work out the details.

Business Role

Development policies often focus on governments because they typically invest in infrastructure, education, and health care to help their societies move forward. But when it comes to innovating more sustainable ways to do human activities, businesses cannot be overlooked because, thanks to a misguided economic theory, it has a huge impact on the environment. However, due to the scale of its impact, it has the largest opportunity to steer a new development path.

Many industries have spent years fighting national or international climate change protocols. But some companies are starting to realize that inaction is, in fact, worse. They are beginning to see operations affected by a lack of once-plentiful resources. Some are getting proactive, particularly as they notice that values for ecosystem services are beginning to be incorporated into public policies and regulations.

Investors also are beginning to recognize ecosystem damage as a business risk. For example, last year the United States Securities and Exchange Commission began requiring publicly traded companies to disclose to their investors all financially material climate-related risks.

Several nonprofits have created ways of measuring business ecosystem impacts. They have encouraged businesses to voluntarily report these impacts and work to reduce them.

The [World Business Council for Sustainable Development](#) (WBCSD), a global coalition of 200 companies advocating for sustainable development, just put out a Guide to Corporate Ecosystem Valuation to help businesses make better decisions based on valuing both ecosystem degradation and the benefits provided by ecosystem services. Assigning a value can show companies that various decisions to conserve or mitigate ecosystems actually affect the financial bottom-line.

This guide followed WBCSD's earlier work in 2004 with World Resources Institute (WRI), a global environmental think tank. The groups launched the most widely used international Greenhouse Gas Reporting Standards for business, which initially measured only direct emissions and emissions from energy that powers the factory or headquarters.

But businesses have many more layers of impact on the environment. Measuring all of them is called full lifecycle accounting and requires looking at the entire supply chain: materials excavation, transport to assembly factory, and energy required to build, ship, use, and recycle or dispose of a product.

Recently WBCSD and WRI released new standards to address this oversight, establishing the first internationally agreed-upon approaches for measuring and reporting GHG emissions throughout corporate supply chains and an individual product's life cycle.

Water

While measuring and reducing energy consumption and emissions is important, businesses also use — and sometimes pollute — water.

Much of the business world has been slow to recognize water issues because water — considered by many, including the [United Nations, to be a human right](#) — is often subsidized and therefore underpriced. As a result, water costs are insignificant to most companies and investors. But by focusing solely on costs, they miss the risks of business interruptions, increased commodity costs, and reduced earnings.

Water uncertainty is expected to increase in the coming years. [A report from the 2030 Water Resources Group](#) (PDF), including the International Finance Corporation and McKinsey & Company, found that the world faces a 40 percent global shortfall between forecasted water demand and availability by 2030.

“These are risks that companies with long and global agricultural supply chains are already beginning to feel in the form of big swings in the prices of agricultural commodities,” said Brooke Barton, senior manager of water programs for Ceres.

In a survey last year sent to 150 of the world's largest companies, 39 percent said they had already felt negative impacts due to water.

Some companies are now supporting new protocols, such as the [Water Footprint Network's guidelines](#) for measuring water footprints and impacts of companies and products. Some industries are beginning to define industry-specific water stewardship principles and water accounting standards.

Just last month Ceres launched a tool called **Aqua Gauge** that goes beyond just reporting water footprints to help companies and investors assess and manage water risk. The World Business Council for Sustainable Development was also involved in launching Aqua Gauge.

Conclusion

Having such metrics and is a valuable first step; it's creating a common language of sustainability and accountability among businesses worldwide. But the real measure of success will be if companies act on the data they gather. Measuring emissions is only step one.

The nonprofit programs are voluntary, so it remains to be seen how effective they actually will be in wresting our economy onto a more sustainable course. But if the early movers can demonstrate economic gains and risk reduction, it's a sure bet their competitors will eventually follow suit, thereby creating a new way business standard.

Some businesses are obviously more prone to self-improvement for the common good than others. For example, the solar industry markets itself as environmentally friendly and therefore has the inclination to be proactive and innovative built into its *raison d'être*. On the other hand, the oil and gas industry has a fundamental resistance to weaning the world off of oil and gas.

For this reason, there is still an important role for government regulation. But governments also need to understand the true economic value of ecosystem services if they are going to make good policy decisions.

Business has long held that protecting the environment is bad for business. But these new initiatives are proving that that tired trope false. In fact, the opposite is true: companies that don't effectively manage environmental risk could see restricted access to capital, high loan rates, and inflated insurance premiums. Whereas companies that get proactive are likely to enjoy a competitive advantage. And as a byproduct, ecosystems and humans will be healthier and happier.