

## Chapter 4

# A Free Economy Is a Clean Economy: How Free Markets Improve the Environment

Ben Lieberman

**E**nvironmental protection has become synonymous with big government: massive environmental statutes and global treaties, volumes of expansive and expensive regulations, and armies of bureaucrats micro-managing the private sector in an effort to reduce pollution. This certainly describes nearly all of the existing policies for addressing environmental concerns as well as most pending proposals dealing with global warming.

However, the *Index of Economic Freedom* strongly suggests that this command-and-control approach to “going green” is a fundamentally misguided one. It is the nations whose economies are ranked as most free that do the best to protect the environment, while the least free ones do the worst. Thus, the same free-market principles that have proven to be the key to economic success can also deliver environmental success and point the way to an approach that advances both concerns.

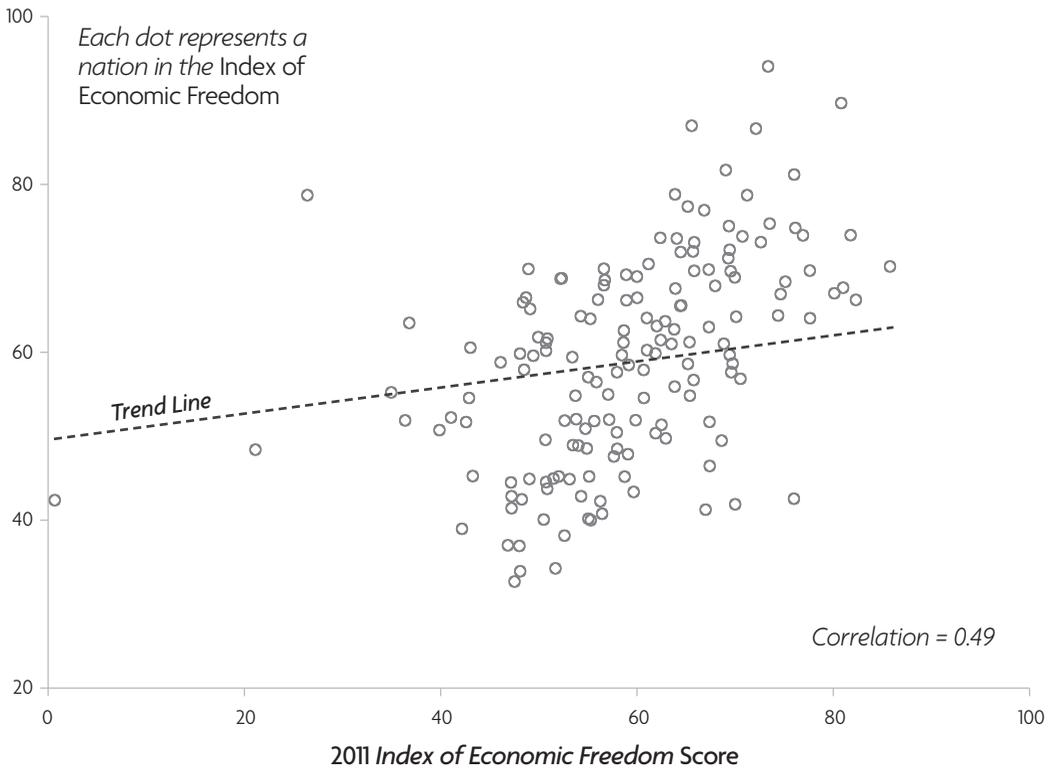
### THE CORRELATION BETWEEN ECONOMIC FREEDOM AND ENVIRONMENTAL PERFORMANCE

While the *Index* ranks 179 economies based on 10 measures of economic freedom, others have tried to gauge nations’ environmental performance. Such evaluations are subjective—likely more so than measures of economic freedom—and limited by the availability of reliable data. However, one well-regarded effort is the 2010 Environmental Performance Index (EPI), conducted by Yale University’s Center for Environmental Law and Policy and other organizations.<sup>1</sup>

1. Yale Center for Environmental Law & Policy and Center for International Earth Science Information Network in collaboration with the World Economic Forum and Joint Research Centre of the European Commission, *2010 Environmental Performance Index*, January 2010, at [http://www.epi.yale.edu/file\\_columns/0000/0157/epi2010\\_report.pdf](http://www.epi.yale.edu/file_columns/0000/0157/epi2010_report.pdf), and “2010

## Economic Freedom and Environmental Performance

### 2010 Environmental Performance Index



**Sources:** Yale Center for Environmental Law & Policy and Center for International Earth Science Information Network in collaboration with the World Economic Forum and Joint Research Centre of the European Commission, *2010 Environmental Performance Index*, January 2010, at [http://www.epi.yale.edu/file\\_columns/0000/0157/epi2010\\_report.pdf](http://www.epi.yale.edu/file_columns/0000/0157/epi2010_report.pdf), and “2010 Environmental Performance Index: Summary for Policymakers,” at [http://ciesin.columbia.edu/repository/epi/data/2010EPI\\_summary.pdf](http://ciesin.columbia.edu/repository/epi/data/2010EPI_summary.pdf); Terry Miller and Kim R. Holmes, *2011 Index of Economic Freedom* (Washington, D.C.: The Heritage Foundation and Dow Jones & Company, Inc., 2011), at [www.heritage.org/index](http://www.heritage.org/index).

Chart 1  heritage.org

The EPI ranks 163 nations based on 10 categories of environmental public health and ecosystem measures. Among the former are access to safe drinking water and sanitation, and among the latter are protection of forests and fisheries as well as efforts to address global warming. Drawing on data from 2007 and 2008, the best performers include Iceland, Switzerland, Sweden, and Costa Rica. Among the worst are Mauritania, the Central African Republic, Turkmenistan, and Haiti.

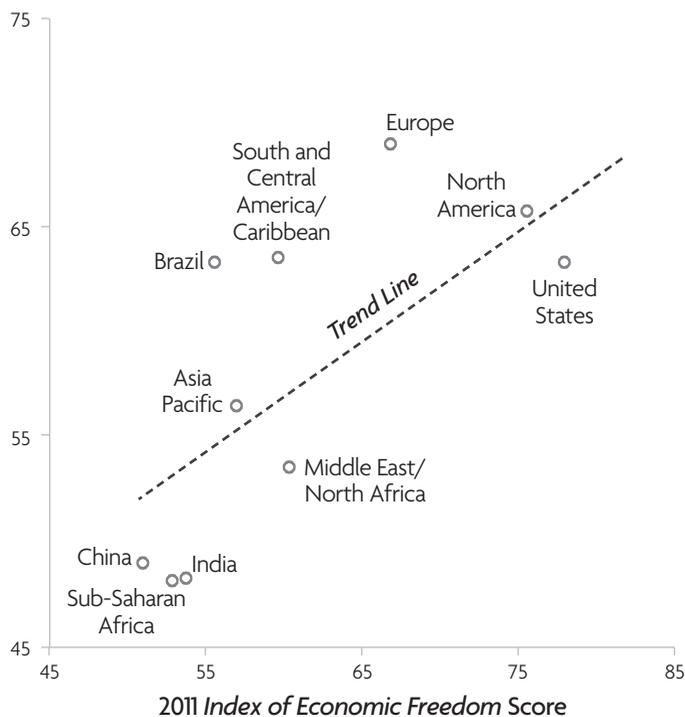
Environmental Performance Index: Summary for Policymakers,” at [http://ciesin.columbia.edu/repository/epi/data/2010EPI\\_summary.pdf](http://ciesin.columbia.edu/repository/epi/data/2010EPI_summary.pdf) (cited hereafter as “2010 EPI Summary”).

The EPI is not without its flaws, such as the excessive weight it gives to global warming relative to other environmental concerns. Furthermore, America’s sharp drop in the rankings over a short span—28th in 2006, 39th in 2008, and 61st in 2010—raises methodological questions, especially given that, by most measures, America’s environment was improving over this same period. Overall, however, the EPI is a useful gauge of national environmental performance.

Correlating the two indices, one finds a positive relationship between a nation’s level of economic freedom and its environmental performance. (See Chart 1.) In other words, free economies tend to be clean economies.

## Environmental Performance by Region

2010 Environmental Performance Index



Sources: Yale Center for Environmental Law & Policy and Center for International Earth Science Information Network in collaboration with the World Economic Forum and Joint Research Centre of the European Commission, *2010 Environmental Performance Index*, January 2010, at [http://www.epi.yale.edu/file\\_columns/0000/0157/epi2010\\_report.pdf](http://www.epi.yale.edu/file_columns/0000/0157/epi2010_report.pdf), and "2010 Environmental Performance Index: Summary for Policymakers," at [http://ciesin.columbia.edu/repository/epi/data/2010EPI\\_summary.pdf](http://ciesin.columbia.edu/repository/epi/data/2010EPI_summary.pdf); Terry Miller and Kim R. Holmes, *2011 Index of Economic Freedom* (Washington, D.C.: The Heritage Foundation and Dow Jones & Company, Inc., 2011), at [www.heritage.org/index](http://www.heritage.org/index).

Chart 2 heritage.org

"[w]ealth correlates highly with EPI scores."<sup>3</sup>

There are simple reasons for the association between wealth and environmental performance. One can think of environmental protection as a good that only prosperous societies can afford. People who lack the necessities do not have the luxury of worrying about endangered species or the health of forests, and even if they did, they would not have the wherewithal to do much about it. However, as economies develop, a point is reached at which there is both the willingness and the means to address environmental concerns. Most countries show increasing levels of environmental harm over time until a certain level of per capita wealth is achieved, and then the environment begins to improve.<sup>4</sup> The exact level of wealth needed before things start to become cleaner varies across countries and among different environmental concerns,

This pattern can be seen regionally as well. (See Chart 2.) Recognition of this relationship points to a number of significant policy lessons that can be drawn as nations seek to improve their approach to protecting the environment.

### FREE = WEALTHY = CLEAN

The *Index of Economic Freedom* finds a very clear association between economic freedom and prosperity.<sup>2</sup> The EPI similarly finds that

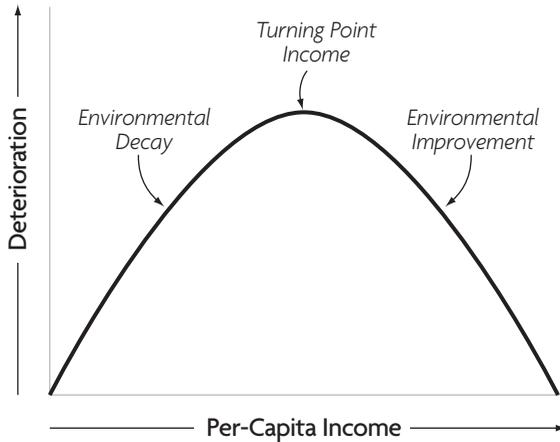
but the general trend is clear. This is often referred to as the environmental transition or the environmental Kuznets curve. (See Chart 3.)

2. See Chart 3, "Economic Freedom Promotes Greater Prosperity," in Terry Miller and Kim R. Holmes, *2010 Index of Economic Freedom* (Washington: The Heritage Foundation and Dow Jones & Company, Inc., 2010), p. 49.

3. "2010 EPI Summary," p. 3.

4. Indur M. Goklany, *The Improving State of the World: Why We're Living Longer, Healthier, More Comfortable Lives on a Cleaner Planet* (Washington: Cato Institute, 2007) pp. 103–116; Bruce Yandle, Madhusudan Bhattarai, and Maya Vijayaraghavan, "Environmental Kuznets Curves: A Review of Findings, Methods, and Policy Implications," Property and Environment Research Center *Research Study No. 02-1 Update*, April 2004, at [http://www.perc.org/pdf/rs02\\_1a.pdf](http://www.perc.org/pdf/rs02_1a.pdf).

## Environmental Kuznets Curve



Sources: Property and Environment Research Center, "Environmental Kuznets Curves," p. 3, Figure 1, at [http://www.perc.org/pdf/rs02\\_1a.pdf](http://www.perc.org/pdf/rs02_1a.pdf) (October 14, 2010).

Chart 3  heritage.org

vancement) that enabled progress in air quality at the state and local levels as the public began to demand it. The private sector also played a role, as the profit motive leads to improvements in energy and resource efficiency, which drive down emissions per unit of output.

Similarly, improvements in America's water quality began decades before enactment of the Clean Water Act and Safe Drinking Water Act in the early 1970s, and similar trends have occurred in many other nations.<sup>7</sup> Once again, state and local governments and

Many mistakenly believe that rising wealth harms the environment as per capita usage of energy and other resources increases. Indeed, some activists and academics pursue environmentalism as if it were a crusade against materialism.<sup>5</sup> However, such views are out of step with the empirical evidence. In reality, anything that jeopardizes continued economic growth likely also jeopardizes continued environmental improvement.

Another common assumption is that the environment improves only after national laws and regulations are imposed, but this is not the case. For example, air pollution in America actually reached its peak and began improving before the enactment of the federal Clean Air Act and creation of the Environmental Protection Agency to implement it in 1970.<sup>6</sup> To the extent that governments took the lead, it was state and local governments. In effect, Americans reached a level of prosperity (as well as accompanying technological ad-

private-sector innovation led the way. If anything, national laws were a lagging indicator, and to the extent that they were unnecessarily expensive or interfered with ongoing efforts, they may even have been counterproductive.<sup>8</sup>

Nor are environmental laws of any value without the wealth to implement them. Many developing nations have tough laws on the books that are simply underenforced or ignored in practice. For example, Mexico has stringent air and water pollution statutes not unlike the American statutes, but air and water quality are worse south of the border.

National laws are only one (and not necessarily the best) means by which a society committed to addressing environmental concerns can do so. But it is the underlying wealth that

5. See Anne H. Ehrlich and Paul R. Ehrlich, *Healing the Planet: Strategies for Resolving the Environmental Crisis* (Reading, Pa.: Perseus Publishing, 1991).

6. Goklany, *The Improving State of the World*, pp. 137–139, 232–234.

7. *Ibid.*, pp. 153–158, 232–234.

8. Steven F. Hayward, "The United States and the Environment: Laggard or Leader?" *American Enterprise Institute Environmental Policy Outlook* No. 1, February 2008, at <http://www.aei.org/outlook/27548>; Jonathan H. Adler, "Free and Green: A New Approach to Environmental Protection," *Harvard Journal of Law & Public Policy*, Vol. 24, No. 2 (Spring 2001), at <http://www.thefreelibrary.com/Free+and+green:+a+new+approach+to+environmental+protection-a074802881>.

makes any chosen means feasible, and a free economy is the best way to generate that necessary wealth.

## NON-WEALTH FACTORS THAT MAKE FREE ECONOMIES CLEAN

Most significantly, a well-developed system of private property rights, enforced through an effective legal system, provides for better stewardship of natural resources than is provided by a system that is characterized by no clear ownership or overwhelming government ownership.<sup>9</sup> In fact, measures of property rights (one of the 10 equally weighted factors that comprise the *Index of Economic Freedom*) correlate more closely with environmental performance than do measures of overall economic freedom. (See Chart 4.)

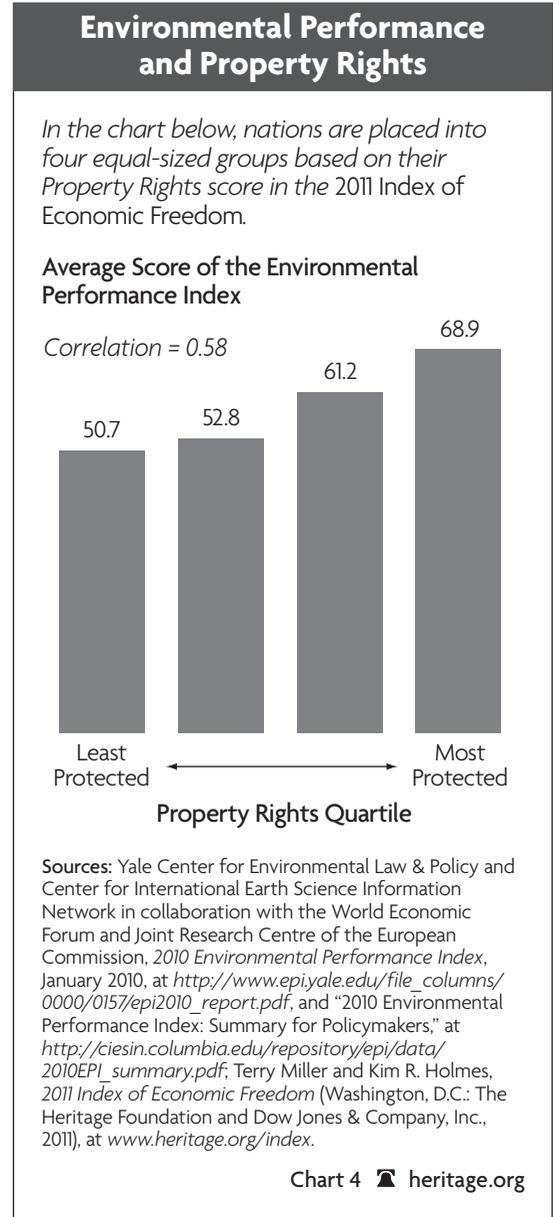
A property owner with the three d's—defined, defensible, and devisable rights—is uniquely incentivized to take care of his own property and actively discourage others from harming it. We see this all around us. Consider a typical homeowner's yard, which is better maintained and kept freer of trash than an unclaimed lot or a public park.

This phenomenon turns out to be true on a larger scale as well, and with environmental implications.<sup>10</sup> For example, the devastating forest fires that have become common in the western U.S. in recent years have originated primarily on federally controlled lands, not in privately owned forests, which tend to be much better managed against such risks.<sup>11</sup> Around the world, nations that lack well-enforced private property rights—corrupt states like Zimbabwe, where farmland is

9. Robert J. Smith, "Privatizing the Environment," *Policy Review*, Spring 1982, pp. 11–50; Terry L. Anderson and Donald R. Leal, *Free Market Environmentalism* (Boulder, Colo.: Westview Press, 1991).

10. Robert J. Smith, "Resolving the Tragedy of the Commons by Creating Private Property Rights in Wildlife," *Cato Journal*, Vol. 1, No. 2 (Fall 1981), at <http://cei.org/pdf/4420.pdf>.

11. Robert Nelson, *A Burning Issue: A Case for Abolishing the U.S. Forest Service* (Lanham, Md.: Rowman & Littlefield, 2000).



routinely confiscated and it is uncertain who really owns what, or Communist states like North Korea where the central government controls nearly every acre—score low in both economic freedom and environmental performance.<sup>12</sup>

Environmental measures that infringe on property rights often backfire, as evidenced in the United States by the Endangered Species

12. Miller and Holmes, *2010 Index of Economic Freedom*, pp. 255–256 and 447–448; "2010 EPI Summary," p. 4.

Act.<sup>13</sup> The statute has a very poor record of actually helping listed species, in part because it punishes farmers, ranchers, and other property owners with onerous restrictions if such species appear on their land. The application of this law forces landowners—many, if not most, of whom would otherwise be predisposed toward helping species—to preemptively make their land unsuitable for endangered animals (for example, by cutting down trees before they become big enough to serve as nesting sites for certain listed birds) and thus avoid the act’s potentially ruinous burdens.<sup>14</sup>

Free trade, another component of the *Index of Economic Freedom*, also correlates strongly with environmental performance. (See Chart 5.) The reasons go beyond the wealth created by the mutually beneficial exchange of goods and services. Perhaps more important, trade encourages the development and widespread deployment of cleaner and more efficient technologies regardless of their nation of origin.<sup>15</sup> It also allows nations to specialize, enhancing efficiencies that are both economically and environmentally beneficial. Of course, to the extent that nations restrict trade, they forgo some or all of these benefits. For example, some countries impose strict tariffs on technologies that could reduce greenhouse gas emissions and air pollutants.<sup>16</sup>

13. *Implementation of the Endangered Species Act of 1973*, Report to the House Committee on Resources, Majority Staff, 109th Congress, May 2005, at [http://www.waterchat.com/Features/Archive/050517\\_ESA\\_Implementation\\_Report.pdf](http://www.waterchat.com/Features/Archive/050517_ESA_Implementation_Report.pdf).

14. Charles C. Mann and Mark L. Plummer, *Noah’s Choice: The Future of Endangered Species* (New York: Alfred A. Knopf, 1995).

15. Daniella Markheim, “Opportunity at Copenhagen—Nations Should Promote Free Trade at the Climate Conference,” Heritage Foundation *Copenhagen Consequences*, No. 7, December 4, 2009, pp. 3–5, at [http://s3.amazonaws.com/thf\\_media/2009/pdf/CC7.pdf](http://s3.amazonaws.com/thf_media/2009/pdf/CC7.pdf); Sallie James, “A Harsh Climate for Trade: How Climate Change Proposals Threaten Global Commerce,” *Cato Institute Trade Policy Analysis* No. 41, September 9, 2009, pp. 14–17, at [http://www.cato.org/pub\\_display.php?pub\\_id=10520](http://www.cato.org/pub_display.php?pub_id=10520).

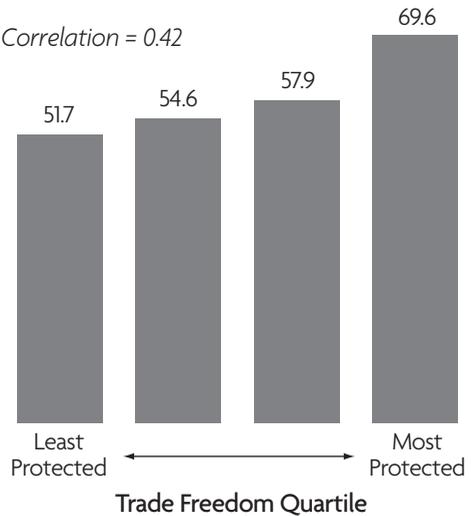
16. Tim Wilson, “Undermining Mitigation Technology: Compulsory Licensing, Patents and

## Environmental Performance and Trade Freedom

In the chart below, nations are placed into four equal-sized groups based on their Trade Freedom score in the 2011 Index of Economic Freedom.

### Average Score of the Environmental Performance Index

Correlation = 0.42



Sources: Yale Center for Environmental Law & Policy and Center for International Earth Science Information Network in collaboration with the World Economic Forum and Joint Research Centre of the European Commission, *2010 Environmental Performance Index*, January 2010, at [http://www.epi.yale.edu/file\\_columns/0000/0157/epi2010\\_report.pdf](http://www.epi.yale.edu/file_columns/0000/0157/epi2010_report.pdf), and “2010 Environmental Performance Index: Summary for Policymakers,” at [http://ciesin.columbia.edu/repository/epi/data/2010EPI\\_summary.pdf](http://ciesin.columbia.edu/repository/epi/data/2010EPI_summary.pdf); Terry Miller and Kim R. Holmes, *2011 Index of Economic Freedom* (Washington, D.C.: The Heritage Foundation and Dow Jones & Company, Inc., 2011), at [www.heritage.org/index](http://www.heritage.org/index).

Chart 5 heritage.org

Free economies also encourage social stability, which is necessary in dealing with environmental challenges. This is especially true of environmental problems with costly and complex solutions that require a long-term commitment. Economic freedom is also correlated with democratization and freedom from corruption: The governments that are

Tariffs,” Institute of Public Affairs *Backgrounder* 21/1, August 2008, at [http://www.ipa.org.au/library/publication/1219192134\\_document\\_wilson\\_mitigationtechnology.pdf](http://www.ipa.org.au/library/publication/1219192134_document_wilson_mitigationtechnology.pdf).

most responsive to the popular will are the ones that deal most effectively with their environmental concerns.

In sum, the very same principles that make people freer and unleash economic progress also serve to advance environmental improvement.

## FREEDOM'S TECHNOLOGICAL EDGE

The role of technology is also critical to environmental protection. Many environmental challenges await the technologies that can address them effectively and affordably, and free economies foster such innovation. This is partially due to the wealth effect, as stronger economies invest more in research and development and can more readily afford to deploy new technologies.<sup>17</sup> In addition, free economies reward successful entrepreneurs, including those who find ways to improve efficiency or reduce waste.<sup>18</sup> Intellectual property rights also help to incentivize the development of new technologies, as do tax policies that encourage the replacement of older and dirtier plant and equipment with newer and cleaner production processes. On the other hand, governments that prop up inefficient state-run entities or impose burdensome environmental regulations on new facilities while grandfathering less efficient older ones impede the benefits of capital turnover.

There are many examples of free economies leading the way with advances that provide both economic and environmental benefits. For example, American agriculture has become much more efficient by incorporating improvements in crop varieties as well as advances in farming methods and machinery. This has enabled a nearly threefold increase in the amount of food grown in the U.S. since 1930 while actually decreasing the acreage needed to grow it.<sup>19</sup> Needless to say, the many experiments in

state-run agriculture over this span did not do nearly as well. Improvements in yield per acre have allowed other land to be left in its natural state; in fact, the extent of American forests and other natural habitat has increased along with rising farm productivity.<sup>20</sup>

The agriculture example also demonstrates how technology and trade can intersect to extend the environmental benefits around the world. American food production currently exceeds domestic demand, and the surplus is exported to countries that are less able to produce it as efficiently. In other instances, the technological advances themselves have been exported, allowing farmers in other nations to achieve similar yield gains using the breakthroughs pioneered in the U.S. Either way, the environment benefits by reducing the amount of global habitat destruction from conversion to cropland. Of course, such benefits can accrue only to the extent allowed by trade policy.

Just as farmers operating in a free economy have dramatically improved productivity and efficiency by incorporating new technologies, so have manufacturers. Over time, every ton of steel, ream of paper, or new car requires less energy and other resource inputs to produce and thus causes less pollution to be emitted. In other words, technological advancement allows for a shrinking environmental impact per unit of production.<sup>21</sup> Though the motive is cost reduction and increased profits, the end result is good for the environment.

Manufacturing in Germany provides a good example of the technological and environmental benefits of economic freedom. During the Cold War, West Germany had more freedom and a cleaner environment than East Germany. It produced energy and goods with considerably lower emissions per unit of output. With the collapse of Communism, superior West German technology flooded into the former East Germany, and environmental

17. Goklany, *The Improving State of the World*, p. 108.

18. Indur Goklany, "Richer Is Cleaner: Long-Term Trends in Global Air Quality," in *The True State of the Planet: Ten of the World's Premier Environmental Researchers in a Major Challenge to the Environmental Movement*, ed. Ronald Bailey (New York: Free Press, 1995), pp. 343–345.

19. Goklany, *The Improving State of the World*, pp. 117–121, 190.

20. Dennis Avery, "Saving the Planet with Pesticides: Increasing Food Supplies While Preserving the Earth's Biodiversity," in *The True State of the Planet*, pp. 72–73.

21. Goklany, "Richer Is Cleaner," in *The True State of the Planet*, pp. 344–345.

quality has been improving there ever since. Today, North Korea and South Korea are in the same situation as East and West Germany before the Berlin Wall came down, with disparities in economic freedom leading to disparities in technological progress and environmental performance.

The benefits of technology are likewise significant when it comes to global warming policy, as they can achieve reductions in carbon dioxide emissions from fossil fuel use. Carbon intensity, defined as carbon dioxide emissions per unit of gross domestic product (GDP), has been declining globally.<sup>22</sup>

There is a correlation between carbon intensity trends and economic freedom: The freest of the major economies have generally led the way in reducing carbon intensity.<sup>23</sup> In other words, free economies encourage finding ways to improve energy efficiency or utilize alternative energy sources, and this minimizes the increases in carbon dioxide emissions that are created by each additional dollar of GDP.

The carbon intensity declines point the way to a rational market-based global warming policy that has been ignored in the rush to expand the role of government. The 1997 Kyoto Protocol global warming treaty and national laws and regulations restricting greenhouse gas emissions—one form or another of centralized control over energy use—are all costly departures from economic freedom that show little promise.<sup>24</sup> For example, the Kyoto Proto-

col has been remarkably ineffective, and the United States has done a better job of reducing emissions as a treaty outsider than have many signatory nations.<sup>25</sup> Further, unlike these expensive and heavy-handed restrictions on energy use, economic freedom makes sense whether or not global warming actually turns out to be a real crisis.

In effect, free economies spur technological advances that allow us to meet human needs while treading ever more lightly on the Earth.

## POLICY LESSONS

The correlation between economic freedom and environmental protection and the reasons behind it offer two important lessons as the world addresses environmental concerns.

The first is that the same principles that make societies wealthy—free markets, property rights, rule of law, free trade, limited government—can also make them clean. Thus, the potential for environmental improvement offers yet another good reason for nations to pursue an agenda that raises their score in the *Index of Economic Freedom*.

The second is that environmental measures that take nations in a direction away from economic freedom—for example, by destroying wealth or undercutting the workings of the free market—can be ineffective if not counterproductive and should be avoided.

---

22. U.S. Department of Energy, Energy Information Administration, *International Energy Annual 2006*, Table H.1pco2, "World Carbon Intensity—World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels per Thousand Dollars of Gross Domestic Product Using Purchasing Power Parities, 1980–2006," at <http://www.eia.doe.gov/pub/international/iealf/tableh1pco2.xls>.

23. Todd Wynn, "Economic Freedom: A No-Regrets Strategy for Reducing Global Energy Consumption," Cascade Policy Institute, April 2010, at [http://www.cascadepolicy.org/pdf/041310\\_Freedom\\_on\\_Energy.pdf](http://www.cascadepolicy.org/pdf/041310_Freedom_on_Energy.pdf).

24. See Ben Lieberman, "What Americans Need to Know About the Copenhagen Global Warming Conference," Heritage Foundation

---

*Special Report* No. 71, November 17, 2009, at <http://www.heritage.org/Research/Reports/2009/11/What-Americans-Need-to-Know-About-the-Copenhagen-Global-Warming-Conference>; David W. Kreutzer, Karen A. Campbell, William W. Beach, Ben Lieberman, and Nicolas D. Loris, "What Boxer–Kerry Will Cost the Economy," Heritage Foundation *Backgrounder* No. 2365, January 26, 2010, at <http://www.heritage.org/Research/Reports/2010/01/What-Boxer-Kerry-Will-Cost-the-Economy>; Ben Lieberman, "Proposed Global Warming Bills and Regulations Will Do More Harm Than Good," Heritage Foundation *WebMemo* No. 2665, October 23, 2009, at <http://www.heritage.org/Research/Reports/2009/10/Proposed-Global-Warming-Bills-and-Regulations-Will-Do-More-Harm-Than-Good>.

25. See Lieberman, "What Americans Need to Know About the Copenhagen Global Warming Conference," p. 2.