Environmental Markets

Environmental Markets explains the prospects of using markets to improve environmental quality and resource conservation. No other book focuses on a property rights approach using environmental markets to solve environmental problems. This book compares standard approaches to these problems using governmental management, regulation, taxation, and subsidization with a market-based property rights approach. This approach is applied to land, water, wildlife, fisheries, and air and is compared to governmental solutions. The book concludes by discussing tougher environmental problems, such as ocean fisheries and the global atmosphere, emphasizing that neither governmental nor market solutions are a panacea.

Terry L. Anderson is the president of the Property and Environment Research Center (PERC) and Senior Fellow at the Hoover Institution, Stanford University. His work helped launch the idea of "free market environmentalism" with the publication of his book by that title, coauthored with Donald Leal. Dr. Anderson's work emphasizes that private property rights encourage resource stewardship by harnessing the incentives of free enterprise to protect environmental quality. Anderson is the author or editor of thirty-seven books including, most recently, *Tapping Water Markets* with Brandon Scarborough and Lawrence R. Watson. He has been published widely in both professional journals and the popular press and has received many awards for his research and teaching. He received his PhD in economics from the University of Washington.

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Environmental Markets

A Property Rights Approach

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Preface

Environmental economics often focuses on the failure of markets to allocate and manage natural and environmental resources efficiently. Under the banner of externalities, markets fail either because private costs are less than social costs or because private benefits are less than social benefits. The former results in overuse of the environment such as overfishing, excessive air and water emissions, and overpumping of groundwater basins. The latter results in too little provision of public goods such as preservation of endangered species habitats, maintenance of adequate stream flows for recreation or pollution dilution, or investment in biodiversity.

The policy remedies for market failure include both taxes to raise private costs to social costs and regulation to hold quantities to the optimal amount. There is little discussion in the literature on the process through which taxes or regulations are devised and implemented that lead to socially beneficial improvements. Are the costs of securing tax or regulatory policies less than the benefits, or alternatively is the route one of rent seeking and interest-group politics? What motivates politicians and regulatory agencies to adopt taxes or regulations that lead to effective correction of the externality? Because taxes are rarely implemented, at least in the United States, the obvious question is why, if they are so beneficial? Is their absence an indication that political interests dominate efficiency goals? Similarly, command-and-control regulations are adopted to limit use of air, water, fisheries, forests, and other resources, but they are costly and often do not capture the incentives of resource users to engage in more optimal production. For example, in the case of fisheries, fishing season limits have been a common regulatory response to overharvest, but they generally result in twenty-four-hour fish derbies, excessive investment in capital and labor to win the derby, and a glut of fish during the season. Regulations on the number of vessels lead to larger ones with more sophisticated equipment to find and catch fish. In some cases where neither taxes nor regulations have been adopted, public ownership and management have been called on to improve resource use. For example, more than one-third of the land area of the United States is owned by the federal government as national forests, range lands, and national parks. Again, however, political considerations through interest-group politics and political and administrative-agency agendas have trumped efficiency, leaving national parks overused and underfunded and national forest management paralyzed by litigation and the demands of competing groups.

We do not claim that all regulation or tax policy has been a failure, but we do believe that environmental economics has paid too little attention to the underlying causes of the divergence between private and social costs and benefits and too little attention to institutional options.

Meanwhile, other economic subdisciplines have carefully and critically considered the importance of institutions that determine who bears the costs and reaps the benefits of efficient use of physical, human, and natural capital. Following the lead of Ronald Coase in his seminal article on "The Problem of Social Costs," institutional economists have focused on the role of property rights, the rule of law, and transaction costs in determining incentives for resource use and the costs and benefits of various responses to the losses of excessive production. As with regulation and taxes, property rights and market exchange are costly, and it may not always be the case that it is socially optimal to solve the environmental or resource problem.

This book applies an institutional approach to environmental problems in an effort to show how property rights and transaction-cost considerations can encourage efficient natural resource use through environmental markets. We do not contend that markets can solve all environmental problems or that political approaches always fail. Rather we offer a lens through which we can tackle environmental problems using property rights and markets and compare them to the regulatory and tax alternatives.

For the economist reader, the book relies heavily on Coase's insights regarding the reciprocal nature of environmental costs. We apply his logic regarding property rights and transaction costs to a variety of environmental issues ranging from local problems such as water quality and wildlife conservation to global problems such as ocean fisheries and the atmosphere.

Where private property rights and markets are difficult to define and enforce, we explore the potential for common property solutions as developed by Elinor Ostrom. We argue that in many local settings, particularly, environmental markets are an effective and often underutilized option for improving water quality, providing habitat conservation, and encouraging investment in conservation of fish stocks. On the other hand, for broad global problems, the costs of defining property rights and use of markets may exceed the benefits. This does not necessarily imply that tax or regulatory actions are superior, but that a careful analysis of costs and benefits is necessary before implementing *any* policy.

For environmentalists, the book offers concrete solutions in the form of case studies that illustrate the importance of environmental entrepreneurship. The environmental entrepreneur identifies gains from trade and facilitates markets that improve environmental quality through profit opportunities. Whether it is a compensation fund created by environmentalists to compensate livestock owners who are harmed by the reintroduction of wolves, the riparian land owner who invests in stream reclamation in order to enhance property values, or the broker who provides information to investors for habitat or water reallocation or quality improvements, environmentalists will learn how market incentives can be harnessed to achieve environmental ends.

For policy leaders, the book goes beyond command-and-control regulations or taxes to suggest how governments at all levels can reduce transactions costs so as to encourage environmental markets and private incentives to improve and protect environmental quality. For example, we show how water markets could do more to advance water use efficiency and water quality, but they are constrained by institutions that raise the costs of defining and enforcing water rights and of allowing exchanges between willing buyers and willing sellers. In other words, government policies can help make markets where they are missing. The problem is one of *missing* markets, not market failure, and government actions can address this problem by lowering transaction costs.

Although the book is built on a foundation of economic principles, we have tried to keep the jargon to a minimum and to maximize the use of concrete environmental examples at work. As environmental economists, we cannot resist the efficiency gains that markets can provide, but we also embrace the potential of markets to go hand-in-hand with environmental improvements. In short, this book is about the environment *and* the economy, not about the environment *or* the economy.

Terry L. Anderson and Gary D. Libecap
July 2014

Acknowledgments

This project is built on a friendship that started many years ago when we were undergraduates at the University of Montana. Between then and now our careers followed parallel paths until they came together as Senior Fellows at the Hoover Institution. There, director John Raisian asked us to co-direct the Task Force on Property Rights, Freedom, and Prosperity. This book combines the property rights theme of the task force with our mutual interest in environmental economics and policy.

Our thanks go to John Raisian for affording us the opportunity to work together on this project and to members of the task force for listening to our nascent ideas and reading drafts of chapters. It is not surprising that such a group forced us to hone both the ideas and the writing.

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Finally, we thank one another for the friendship that has endured the years and grown stronger despite our idiosyncrasies. Combining friendship and scholarship is a rare gift.