

LAW, THE LAWS OF NATURE AND ECOSYSTEM ENERGY SERVICES: A CASE OF WILFUL BLINDNESS**DR Hodas***

The law of conservation of energy tells us we can't get something for nothing, but we refuse to believe it.¹

In this house, we obey the laws of thermodynamics!²

SUMMARY

Ecosystems services include the collection, concentration, and storage of solar energy as fossil fuels (e.g., coal, petroleum, and natural gas). These concentrated forms of energy were produced by ancient ecosystem services. However, our legal and economic systems fail to recognise the value of the ecosystem service subsidies embedded in fossil fuels. This ecosystem services price subsidy causes overuse and waste of fossil fuels in the free market: fossil fuels are consumed more quickly than they can be replaced by ecosystem services and in far larger quantities than they would be if the price of fossil fuels included the cost of solar energy collection, concentration and manufacturing of raw fossil fuels. Moreover, burning fossil fuels produces enormous environmental, human health and welfare costs and damage.

Virtually no legal literature on ecosystem services, sustainable development, or sustainable energy, considers fossil fuels in this context. Without understanding stored energy as an ecosystem service, we cannot reasonably expect to manage our

* Distinguished Professor, David R Hodas Widener University School of Law, Wilmington, Delaware, United States. BA *cum laude and with honors in political science*, Williams College (1973); JD *cum laude*, Boston University School of Law (1976); LLM in Environmental Law (*Feldshuh Fellow*), Pace University School of Law (1989). This paper is based upon a presentation at "Towards the Legal Recognition and Governance of Ecosystem Services," a workshop jointly sponsored by the Research Committee of the IUCN Academy of Environmental Law, the IUCN Environmental Law Centre, and the IUCN Commission on Environmental Law, Mpekwini Beach Resort, Eastern Cape, South Africa, 3 July 2011. I thank all who participated in the workshop for their helpful insights and comments. I also thank Judy Oken Hodas for her invaluable editorial input. I am responsible for all blunders. I can be reached at drhodas@widener.edu or drhodas@gmail.com..

¹ Shulman and Asimov Book of Science and Nature Quotations 75.

² Simpson H "PTA Disbands".

fossil fuel energy resources sustainably. International and domestic energy law and policy systems generally ignore this feature of fossil fuel energy, a blind spot that explains why reducing greenhouse gas emissions from fossil fuels is fundamentally a political challenge. This paper will use new understandings emerging from the field of complex systems to critique existing legal decision-making models that do not adequately account for energy ecosystem services in policy design, resource allocation and project approvals. The paper proposes a new "least-social-cost" decision-making legal structure that includes ecosystem energy services.

KEYWORDS: Ecosystem services; ecosystem energy services; sustainable energy; energy law; energy policy; climate change; fossil fuels; global warming; market failure; environmental externalities; energy subsidies; ecosystem services; ecological economics; complex systems; renewable energy; energy efficiency