The Cost of Clean Air

Paul College researcher provides critical valuation data to help sustainability policy-setting goals

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PAUL COLLEGE PROFESSOR OF ECONOMICS JU-CHIN HUANG

How can you put a price tag on the benefits of cleaning up the air, shoring up diminishing water supplies, or producing less garbage? It's not easy; but it's absolutely vital, as one of the biggest challenges in setting policy to pursue sustainability goals is assessing the economic value of the benefits of nonmarket goods. Paul College Professor of Economics Ju-Chin Huang and her colleagues far and wide are doing just

that: providing a body of reliable and credible data that's helping policy makers answer these and other questions.

Huang is internationally recognized for her theoretical and applied work in environmental valuation, which refers to things that lack a price tag — such as clean air, available water, and healthy ecosystems — but have economic value. To determine economic values of nonmarket goods, Huang uses either direct or indirect methods.

"In the direct method, you just ask people how much they would be willing to pay," explains Huang.

For example, in one study of managing erosion of sandy beaches on Plum Island, Massachusetts, Huang's team surveyed local residents to see how much they'd be willing to pay for different management options and outcomes.

"We learned that in addition to beach preservation and property protection, citizens would pay extra for management options that would also protect and preserve wildlife habitat," she says.

The indirect method determines economic values of nonmarket goods based on the consumption of related private goods. In multiple studies, Huang used housing markets to learn how property values were shaped by air quality and estimated the premiums homeowners were willing to pay for houses in areas with cleaner air.

Most recently, she and UNH colleague John Halstead, professor of environmental economics, and Christopher Wright, adjunct professor at Montana State University, evaluated 180 New Hampshire towns to determine economic incentives for reducing garbage levels. They discovered that those using "pay-as-you-throw" trash disposal programs reduced garbage levels by 42 to 54 percent.

"It costs towns a lot to process garbage, tying up funds that could go to other things," Huang says. "In this instance, towns created a market for waste disposal and charged for being in it, so people recycled more and produced less trash. Bottom line: the program works!"

The author and co-author of dozens of peer-reviewed articles appearing in top journals, Huang has been selected to be the new holder of Paul College's most distinguished endowed professorship, the James R. Carter Professorship.

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