

Energy and Resources Group Spring 2009 Colloquium Series (ER295)

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Ashley Murray

PhD Candidate
Energy and Resources Group
University of California

**"Don't Think of Wastewater: Evaluation
and Planning Tools for Reuse-Oriented
Sanitation Infrastructure"**

110 Barrows Hall / 4:00 p.m.

The conventional conception of human waste as a disposal problem has incited limited financial and managerial commitment to the provision of adequate sanitation in developing urban areas. Today, with over 2.6 billion people unserved, delivering effective and reliable urban sanitation is one of the world's biggest challenges. Scholars, development agencies, and practitioners widely agree that rapidly scaling-up access to sanitation, through means that are environmentally and economically sustainable, demands a shift to lower cost and reuse-oriented sanitation systems.

I have developed two decision-support tools for local planners and decision makers that are designed to compel choices that privilege reuse-oriented wastewater management. The Burden to Capacity Sustainability Assessment reveals the site-specific resource value of wastewater and treatment byproducts, and quantifies economic and environmental tradeoffs between reuse and disposal. The second tool, Design for Service, is the first sanitation planning tool that is explicitly reuse-oriented. The five-step process guides planners to the design of a sanitation scheme that contributes to the local economy, and to environmental goals and objectives, in ways that go far beyond those associated with a conventional, disposal-oriented wastewater treatment plant. I will demonstrate the utility of each tool by presenting the results of three separate applications in Chengdu, Sichuan Province, China.