

Study says the best energy strategies to meet the world's growing demand for electricity are green, small and local

September 20 2007

The wisest energy strategy for the United States, and indeed other countries facing similar challenges, is to move away from their reliance on large-scale centralized coal and nuclear plants, and instead, invest in renewable energy systems and small scale decentralized generation technologies. According to Benjamin Sovacool from the Virginia Polytechnic Institute and State University, these alternative technologies are simultaneously feasible, affordable, environmentally friendly, reliable and secure. His analysis and recommendations are published in Springer's journal *Policy Sciences*.

The electricity sector as it currently operates is at the mercy of natural disasters, price fluctuations, terrorist attacks and blackouts. Coupled with other, more long-standing problems such as increasing levels of pollution, growing vulnerability and inefficiency of transmission and distribution networks, and rising electricity prices related to disruptions and interruptions in fuel supply, these challenges add to the need for an evaluation of alternative energy technologies.

Sovacool studies in detail the current technological composition of, and challenges faced by, the American electric utility industry. He then evaluates the broad portfolio of energy technologies available to American electricity policy makers, against five criteria: technical feasibility, cost, negative externalities (or impact on human health and the environment), reliability and security.

Sovacool's detailed analysis shows that three other sets of technologies – energy efficiency practices (like more efficient appliances), renewable energy systems (such as generators that create electricity from sunlight, wind, and falling water), and small-scale distributed generation technologies (such as generators that produce decentralized and modular power close to its point of consumption) – appear to offer many advantages over large and centralized nuclear and fossil fueled generators.

Sovacool's paper shows how these alternative approaches can offer policy makers solutions to curb electricity demand, minimize the risk of fuel interruptions and shortages, help improve the fragile transmission network, and reduce environmental harm. He concludes that “it is these miniature generators – not mammoth and capital-intensive nuclear and fossil fuel plants – that offer the best strategy for diversifying electrical generation in a competitive energy environment.”

Source: Springer

Citation: Study says the best energy strategies to meet the world's growing demand for electricity are green, small and local (2007, September 20) retrieved 9 April 2024 from <https://phys.org/news/2007-09-energy-strategies-worlds-demand-electricity.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
