

Energy and Water Conservation: Global Analysis and Solutions



RTI International provides independent, interdisciplinary research to support the development, implementation, and evaluation of energy and water conservation policies. Our engineers, economists, and policy analysts have the modeling and research capabilities to deliver robust, objective analyses of the technical, economic, and achievable potential for energy and water efficiency initiatives. For more than 20 years, we have conducted research to support decision making at every level of the program design and implementation process, ensuring the success of demand-side management (DSM) strategies worldwide.

Growing energy and water consumption are two of the most important issues facing the world in the 21st century. Global population growth, combined with rising standards of living, makes current and projected levels of energy and water consumption per capita unsustainable. Although technologies and best practices exist today to greatly reduce consumption, a wide range of market and nonmarket barriers limit their large-scale adoption. Some barriers are as simple as lack of information, whereas others are more complicated, relating to distorted financial incentives and established customs or perceptions.

RTI has more than 20 years of experience investigating and modeling energy and water consumption in the residential, commercial, and industrial sectors. The breadth of our research capabilities allows us to assess the full scope of issues and draw on a broad spectrum of solutions. RTI engineers are involved in developing the latest technical options, and they can assess advantages and disadvantages of these options in different settings. Our economists have extensive experience assessing the economic viability of efficiency options, and our behavioral scientists implement cutting-edge survey and intervention techniques to

stimulate behavior change. An integrated, comprehensive approach is essential to identifying and implementing the most effective and efficient solutions.

RTI is an independent nonprofit organization with no connection to specific technologies or particular program or policy solutions. We bring investigative experience from around the globe and realize the importance of identifying custom solutions that are unique to the given region, climate, and social settings. Our energy and water efficiency methods and approaches are based on international best practices and then rooted in on-the-ground research we conduct at our offices throughout 80 countries worldwide.

Our researchers have developed a suite of energy efficiency models that can be used to estimate the potential impact and cost of DSM initiatives. These models range from energy-efficient lighting upgrade models to macroeconomic models that trace the benefits of programs and national policies to social welfare implications. We also regularly link energy and water savings impacts to health and environmental or climate change benefits.

Selected Projects

For the Executive Affairs Authority of Abu Dhabi, RTI estimated the technical and economic potential for electricity and water DSM programs. We followed the estimation by developing a comprehensive cooling program for Abu Dhabi to reduce air conditioning electricity consumption.

World Bank commissioned us to identify the most viable options or interventions for water efficiency in Yemen's Sana'a Basin. This report analyzes a specific set of interventions to reduce water demand and improve water use efficiency in municipal and agricultural systems.

We conducted an energy awareness survey of 800 U.S. households to investigate knowledge of energy issues and opportunities for energy savings. Our researchers measured three concepts: perceived understanding of energy, demonstrated energy knowledge, and the ability to interpret an energy bill. RTI Press published the findings at <http://www.rti.org/publications/rtipress.cfm?pubid=19416>.

Under contract for the U.S. Environmental Protection Agency, we conducted an agricultural energy efficiency study to estimate potential energy savings from improvements in irrigation, drying, tilling, and harvesting. The findings were published in a special edition of *Energy Efficiency*.



We supported the Emirates Authority for Standardization & Metrology's development of residential lighting standards by estimating the technical, economic, and achievable potential of energy efficiency lighting in the United Arab Emirates.

More Information

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