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New Study Shows South Can Cut Utility Bills, Create Jobs, and Conserve Billions of Gallons of Water

According to a [new study](#) released today by a team of researchers at the Georgia Institute of Technology and Duke University's Nicholas Institute, aggressive adoption of energy efficiency programs in the South [\[1\]](#) would lower utility bills by \$41 billion, create 380,000 new jobs, reduce the need for new power plants, and save 8.6 billion gallons of freshwater by 2020. [\[2\]](#)

Total energy demand in the South, where per capita energy consumption is already higher than average, is projected to increase 16 percent from 2010 to 2030. At the same time, many Southern states spend less on energy efficiency programs than their peer states in other parts of the country. The research strongly indicates the South's projected growth in energy consumption need not materialize if the region begins to tap into its tremendous energy efficiency potential. [\[3\]](#)

"An aggressive commitment to energy efficiency could be an economic windfall for the South," states Dr. Marilyn Brown of the Georgia Institute of Technology and co-lead researcher of the study. "Such a shift would lower energy bills for cash-strapped consumers and businesses and create more new jobs for Southern workers."

The energy efficiency policies examined by the research team fall into three broad categories: residential, commercial and industrial. Residential policies include changes to building codes, appliance standards and incentives, weatherization assistance, retrofit incentives and equipment standards. Commercial building policies include appliance standards and building retrofit incentives. Industrial policies include plant utility upgrades, process improvement policies, and combined heat and power incentives.

["Energy Efficiency in the South"](#) found that the adoption of aggressive energy-efficiency initiatives in the South would:

1. **Prevent energy consumption from growing over the next 20 years.** In the absence of such initiatives, energy consumption in these three sectors is forecast to grow by approximately 16 percent between 2010 and 2030.
2. **Generate new jobs, cut utility bills and sustain economic growth.** Overall utility bills would be reduced by \$41 billion each year in 2020 and \$71 billion in 2030; the average residential electricity bills would decline by \$26 per month in 2020 and \$50 per month in 2030; electricity rate increases would be moderated; and 380,000 new jobs would be

created by 2020 (annual job growth increases to 520,000 new jobs in 2030). The region's economy is anticipated to grow by \$1.23 billion in 2020 and \$2.12 billion in 2030.

3. **Reduce the need for new power plants.** Almost 25 gigawatts of older power plants would be retired and the construction of up to 50 gigawatts of new plants (equal to the amount of electricity produced by 100 power plants[4]) would be avoided.
4. **Result in substantial water conservation.** The reduction in power plant capacity would save southern NERC regions[5] 8.6 billion gallons of freshwater in 2020 and 20.1 billion gallons in 2030.

“The set of energy efficiency policies we examined are also highly cost effective,” said Etan Gumerman of Duke University's Nicholas Institute and co-lead researcher of the study. “On average, each dollar invested in energy efficiency over the next 20 years will reap \$2.25 in benefits.”

The study was developed using the same state-of-the-art economic modeling tool that the U.S. Energy Information Administration uses in making its annual energy forecasts. The research team used this tool to compare a “business as usual” scenario with a scenario that included a specific set of energy efficiency investments. As the findings indicate, the analysis found substantial reductions in energy use, prices, utility bills, water use and carbon emissions in the energy efficiency scenario as compared with business as usual. This study provides a useful estimate of the benefits associated with an aggressive commitment to energy efficiency. Since it does not include every energy efficiency investment that could be considered, it is by no means an exhaustive measure of the benefits associated with an aggressive commitment to energy efficiency.

“Energy Efficiency in the South” and state profiles that have been developed for each of the states are available on the Southeast Energy Efficiency Alliance (SEEA) website: www.seealliance.org/programs/research.php. SEEA is a nonprofit organization that promotes energy efficiency in the Southeast. This project is funded with support from the Energy Foundation (www.ef.org), the Kresge Foundation (www.kresge.org) and the Turner Foundation (www.turnerfoundation.org).

About Marilyn Brown and Georgia Tech:

Marilyn Brown, a professor in the School of Public Policy at the Georgia Institute of Technology, is an internationally-recognized leader in the analysis and interpretation of energy futures in the United States. In 2007, Brown was a co-recipient of the Nobel Peace Prize along with the other members of the Intergovernmental Panel on Climate Change and Vice President Al Gore. Additional information about Brown and her research can be found at <http://www.spp.gatech.edu/faculty/faculty/mbrown.php>. Brown has been nominated to serve on the Board of the Tennessee Valley Authority and awaits confirmation.

Georgia Tech's Ivan Allen College of Liberal Arts offers one of the world's top public policy programs. The research-intensive and globally engaged curriculum aims to solve complex

problems in the public interest related to issues of research and technology, energy and sustainability, economic development and governance. The School of Public Policy is dedicated to scholarship and learning that is reflective, effective and sustainable.

About Etan Gumerman and Duke University's Nicholas Institute:

Etan Gumerman is a scientific engineer at the Nicholas Institute for Environmental Policy Solutions at Duke University. Prior to joining the Nicholas Institute, Gumerman was employed by Lawrence Berkeley National Lab and served as the lead modeler and analyst for the Scenarios for a Clean Energy Future Project. In this role, Gumerman coordinated the efforts of scientists at five national laboratories.

The Nicholas Institute is a nonpartisan institute founded in 2005 to help decision makers in government, the private sector, and the nonprofit community address critical environmental challenges. The Institute responds to the demand for high-quality and timely data and acts as an “honest broker” in policy debates by convening and fostering open, ongoing dialogue between stakeholders on all sides of the issues and providing policy-relevant analysis based on academic research. The Institute's leadership and staff leverage the broad expertise of Duke University as well as public and private partners worldwide. Since its inception, the Institute has earned a distinguished reputation for its innovative approach to developing multilateral, nonpartisan, and economically viable solutions to pressing environmental challenges.

[1] The study covers “the South” as it is defined by the U.S. Census – the District of Columbia and 16 states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

[2] Bill savings, job creation and water savings #'s are annual numbers as projected in the year 2020.

[3] McKinsey Global Energy and Markets (2009) published an assessment of economic potential for energy efficiency improvements in the United States. The McKinsey study concluded that the South has the largest energy efficiency resource of any region in the country. The South accounts for 41 percent of the national potential for energy efficiency improvements. This contrasts with the Midwest (26 percent), the West (18 percent) and the Northeast (15 percent).

[4] For this calculation, a medium sized (500 megawatt) coal-fired power plant is used for purposes of simplicity. A larger nuclear power plant produces nearly one gigawatt and a typical natural gas plant produces approximately 300 megawatts.

[5] The North American Electrical Reliability Corporation (NERC) regions covered include all of Alabama, Georgia, Florida, North Carolina, South Carolina, Tennessee, Missouri and portions of Kentucky, Virginia, Illinois, Iowa, Mississippi, Louisiana and Texas.

[Southeast Efficiency Energy Study](#)