

Georgia State Buildings Performance Contracting Program Employment Potential Estimate

The potential for employment growth that is produced by an Energy Savings Performance Contracting (ESPC) program on all of the state facilities in Georgia can be calculated as follows.

- 1) Estimate the total current expenditures for energy and water in state facilities;
- 2) Estimate the potential savings in these total expenditures;
- 3) Estimate the investment in energy efficiency improvements that will be required to realize the potential savings; and,
- 4) Estimate the employment that will be produced by the estimated investment.

1) The Georgia Environmental Finance Authority (GEFA) estimates the total current annual expenditures in state facilities at \$195 million on energy and \$30 million on water.

2) The Lawrence Berkeley National Laboratory (LBNL) reports that the median energy savings for the 82 state building ESPC projects in its database that were completed between 2005 and 2008 is 23.8%. LBNL has assembled and maintains this database, which now contains about 4,000 projects, under contract to the US Department of Energy.

3) The investment required to realize these savings can be estimated by using a software tool called the Cash Flow Opportunity Calculator (CFOC), created by the US Environmental Protection Agency (EPA), and cross-checking this number with data from the LBNL database.

- The CFOC model estimates that a \$528 million investment will be required to realize the potential energy and water savings in Georgia state facilities. The CFOC estimate is based on financing projects at the rate of 4.75% over fifteen years.
- A 2005 LBNL report entitled "Public and Institutional Markets for ESCO Services: Comparing Programs, Practices and Performance," documented that the median expenditure in state building ESPC projects was about \$4 per square foot, or about \$540 million total for the 135 million square feet of Georgia state facilities.

4) The jobs produced by investing approximately \$530 million in state facilities are estimated by economists based on data published by the US Department of Commerce that details GDP and employment by industry (e.g., \$80,500 of construction expenditure produces one construction job). Using this simple method, \$530 million invested in construction projects will produce about 6,600 jobs.

During the past two years, a number of academic studies have been published that use this basic data in econometric models to estimate the employment produced by large-scale energy efficiency programs. Reviewing these studies indicates that a reasonable range for ESPC projects is that investment of \$105,000 to \$165,000 creates one job, which means that the Georgia investment of \$530 million would create 3,200 to 5,000 direct jobs over the course of

the program. It is important to emphasize that these are high-wage jobs in the construction industry, which today is enduring Depression-level unemployment.

Each of these direct jobs in turn produces indirect employment when the people employed in the ESPC projects spend their wages on goods and services in local communities. This indirect employment raises the total potential employment from the ESPC program to the range of 7,500 to 11,500 jobs over the course of the program.

Sources:

“GDPbyInd_VA_NAICS_1998-2009” US Department of Commerce, Bureau of Economic Analysis

“ENERGY EFFICIENCY IN THE SOUTH,” Georgia Institute of Technology and Duke University, April 2010, pages 133-137

“DEFINING, ESTIMATING, AND FORECASTING THE RENEWABLE ENERGY AND ENERGY EFFICIENCY INDUSTRIES IN THE U.S AND IN COLORADO,” The American Solar Energy Society Boulder, Colorado www.ases.org and Management Information Services, Inc. Washington, D.C. www.misi-net.com, December 2008, pages 21-25