

Case Studies on SEO and Utility Involvement in Building Energy Code Programs

GEORGIA CASE STUDY: SEO and Utility Support Adoption of 2009 IECC and Testing Requirements

On January 1, 2011, the 2009 IECC (with amendments) became the mandatory Georgia building energy code, replacing the 2006 IECC. Testing requirements for building envelope air leakage and duct tightness became effective on July 1, 2011, making Georgia the first state to include these requirements in a mandatory statewide building energy code. The Georgia Environmental Finance Authority (GEFA), the State Energy Office; Southface, an energy and sustainability non-profit organization based in the Southeast; and the Georgia Department of Community Affairs (DCA) cosponsored a training series on the new code, including a Duct and Envelope Tightness (DET) Verifier training. Georgia Power, an investor-owned utility (IOU), was supportive of the DET Verifier training initiative and utilized the Southface curriculum to deliver additional DET Verifier trainings across the state, with a focus on rural areas. GEFA and DCA also coordinated the purchase of DET testing equipment, which the Home Builders Association of Georgia rents to contractors through its regional offices.¹ GEFA has funded a report on building department best practices for enforcing the new energy code, which will be shared with building departments throughout the state in order to increase code compliance. The strong partnership among state agencies, utilities, home builders, local building departments, and other stakeholders in Georgia has contributed to adopting a building energy code that emphasizes energy efficiency performance testing and to creating and strengthening a collaborative building energy code environment in the state.

Georgia Building Energy Code	
Current Residential Code	2009 IECC (with amendments)
Current Commercial Code	2009 IECC with reference to ASHRAE 90.1-2007
State Code Authority	The Georgia DCA authorizes updates or amendments to the state minimum standard codes, including energy codes. Revisions to the building energy code (IECC) must also be approved by GEFA's Division of Energy Resources.

Program Details

Scope and Activities

Two state agencies, GEFA and DCA, collaborated with Georgia Power² and numerous other stakeholders to adopt the new building energy code and support code implementation.

1. Code Development and Adoption

Georgia electric and gas utilities, as well as GEFA and other stakeholders, participated on a 17-member 2009 IECC Task Force that began meeting in late 2009. The Task Force's role was to assess the difference between the 2009 IECC and the statewide building energy code at the time, which was the 2006 IECC with amendments, and develop amendments to the 2009 IECC that the State Codes Advisory Committee should consider.³ The Task Force developed an amendment to the 2009 IECC that required duct and envelope tightness testing by a certified individual; additionally, the testing results must be included on a certificate that is placed on the home's electrical panel.⁴ Other stakeholder groups, such as the Home Builders Association of Georgia

1 Georgia Department of Community Affairs, "January 2012 Newsletter," <http://www.dca.state.ga.us/main/News/downloads/newsletters/January2012DCAnewsletter.pdf>.

2 Georgia Power is the largest subsidiary of Southern Company, one of the nation's largest generators of electricity.

3 The IECC Task Force was convened by DCA. For more information on the code adoption process, see: Institute for Market Transformation (IMT), "Residential Performance Testing in Georgia," winter 2012.

4 DET verifiers include Building Performance Institute (BPI) Building Analysts, Home Energy Rating System (HERS) raters, Home Performance with ENERGY STAR contractors, or anyone who completes a DET Verifier course approved by the Georgia DCA. The duct tightness tests must show that the post construction total leakage is less than 12%. A blower door test (for envelope tightness) must result in less than 7 air changes per hour at a pressure difference of 50 Pascals ($ACH_{50} < 7$). For more information on the amendments, see: Southface, "Georgia Residential Energy Field Guide," 2011.

(HBAG), supported the DET amendment but had concerns that the home builder industry lacked the training and equipment to effectively implement the testing requirement. To respond to this need, GEFA agreed to develop a statewide training program on the commercial and residential building energy codes, as well as the DET Verifier course,⁵ and Georgia Power agreed to hold additional DET training courses in rural parts of the state. While the 2009 IECC became effective as of January 1, 2011, the DET requirement became effective July 1, 2011, in order to allow time to develop and implement the DET training course.

2. Energy Code Training and Equipment Rental

In late 2010, GEFA selected Southface to execute the building energy code and DET Verifier training program. Southface developed curricula for training courses on the commercial and residential building energy codes, and a DCA-approved DET Verifier Course, which included a written and practical exam. Southface provided the DET curriculum to Georgia Power, which used it to deliver DET Verifier workshops in rural parts of the state.⁶ Georgia Power also helped sponsor the Southface building energy code and DET workshops by providing printed manuals. Additionally, Southface trained 50 technical college instructors from 16 different technical colleges as part of a train-the-trainer program, so that they could provide training courses in future years once the GEFA-sponsored program ended. See Table 1 for more information on the Southface and Georgia Power DET training programs.

Table 1:

Georgia DET Verifier Training Summary			
Organization⁷	Trainings Delivered	Certified Trainees	Participant Cost Per Training
Southface	27	431	\$225
Georgia Power	20	215	\$40

GEFA also recognized the need to offer home builders and contractors affordable testing equipment. GEFA provided ARRA funding to DCA to purchase 30 blower door and duct blaster kits for an equipment rental program, administered by the state home builders association, HBAG, who took on this role because many of its members recognized DET testing as a potential new line of business.⁸

Impact on Compliance

While Georgia has not conducted a formal compliance assessment on its new statewide building energy code, anecdotal evidence indicates that home builders and HVAC contractors have deepened their knowledge of home construction due to the DET training and requirements and take professional pride in achieving low leakage rates.⁹ Additionally, GEFA is sponsoring a report on building department best practices for enforcing Georgia’s energy code, with the main audience being building departments and local governments.¹⁰ Building departments in Georgia, or other states, will be able to utilize the recommendations in the report to refine their approaches to enforcing building energy codes. For instance, the research highlights two strategies some local building departments are taking in order to increase compliance: 1) requiring that all builders submit a compliance certificate to the building department prior to issuing a certificate of occupancy; and 2) spot checking DET test results, either through watching DET Verifiers perform the test or verifying results after DET tests are complete.

⁵ A Pacific Northwest National Laboratory grant funded the training program.

⁶ At this time, Georgia Power is not quantifying energy savings from its involvement in building energy codes. It is involved in these activities in order to reduce energy consumption in the state, link code updates into their residential new construction program, and to stay informed on the statewide building energy code development process. Reference: Darrell Howell, Georgia Power, Interview by author, 30 Apr. 2012.

⁷ Nineteen businesses have also been approved by DCA to be DET Verifier Trainers (using the Southface curriculum) and have trained an 44 people. There are 463 other qualified DET Verifiers (e.g., HERS Raters, etc.).

⁸ Jennifer Wilson, Georgia Environmental Finance Authority, Interview by author, 7 May 2012.

⁹ Diana Burk, Southface, Interview by author, 16 Apr. 2012; Howell Interview, Apr. 2012.

¹⁰ Wilson Interview, May 2012. The report is being completed by Southface, the Southeast Energy Efficiency Alliance, and the Building Codes Assistance Project and is funded by a State Energy Program (SEP) ARRA grant.