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## High-performance construction: Stimulus fund on tap

The impacts of the American Recovery and Reinvestment Act, signed in February by President Obama in Denver's Museum of Nature of Science to invigorate the American economy, are beginning to show up across Colorado's new energy economy as well. One area reaping the benefits of ARRA, along with Department of Energy funding, involves the mission to construct more energy-efficient, or "high performance," buildings.

As Gov. Bill Ritter has observed, the way the next generations use, consume and produce energy will differ tremendously from the way we do today. A recent University of Virginia study estimated that by 2030, more than 50 percent of the buildings in the United States will have been built after the year 2000. Clearly the decisions we make today on how we build will impact the way the next generation uses energy.

The Governor's Energy Office is tapping ARRA dollars, in part, to send out foot soldiers to train industry experts and guide Colorado's public building projects to realize new high-performance standards. High-performance building will optimize the use of local resources, adapt to specific climates, minimize resource consumption, lower operations and maintenance costs, as well as promote health and satisfaction for those working inside.

Last spring, GEO contracted with two firms to lead the effort: Ambient Energy and Hutton Architecture Studio. Together, these two firms are the GEO's "boots on the ground" – its High-Performance Building Program team – providing training and consulting to public entities and their project teams.

Whether it's the LEED Gold requirement for publicly funded projects implemented by the state Legislature or the state's Collaborative for High-Performance



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Schools created for public schools, the HPBP team acts as the "sustainability owner's representative" helping teams make solid, long-term decisions.

### Training and Workshops

The GEO's HPBP team offers training, hosting workshops across the state to meet with individuals involved in all phases of achieving high-performance building in their communities. The next general high-performance building workshop is scheduled for Oct. 29 at Mesa State College in Grand Junction.

The purpose of the workshops is to: provide an overview of the HPBP that includes public education, outreach and partner participation; demonstrate how integrated design brings all stakeholders to the planning table; offer strategies to maximize energy efficiency in new construction projects; feature examples and success stories from around Colorado; identify funding opportunities; and strengthen the network of individuals and organizations interested in high-performance building.

"Across Colorado, building owners respond uniquely to sustainability and energy-efficiency goals and requirements," said Renee Azerbegi, LEED AP, CEM, president of Ambient Energy. "Our challenge is to help them identify strategies and opportunities that make sense in their local climate and community."

The workshop is aimed at professionals and stakeholders involved in all phases of new construction and

major renovation projects, including planning, funding, design, construction, and operations and maintenance. Public officials from cities, counties, school districts, state agencies and higher education are strongly encouraged to attend.

Additional training on specific issues with additional technical content will be scheduled for late 2009 and 2010.

Registration is available at [www.colorado.gov/energy/index.php?/commercial/high-performance-building-workshops](http://www.colorado.gov/energy/index.php?/commercial/high-performance-building-workshops).

■ **Project consulting.** The GEO HPBP team is working with project owners and their project teams to change the way buildings are designed and built. The objective is to capture energy and performance improvements from the start of the project, before opportunities are lost or too costly to implement.

The GEO's HPBP team can assist project owners through the various phases of their high-performance building projects.

■ **Planning.** During the planning phase, the emphasis is on goals and selecting a qualified design and construction team. Additionally, the GEO consultants share information on best practices and other successful high-performance projects.

■ **Funding.** The GEO HPBP team can connect owners with available funding opportunities such as utility incentives and rebates, grants, tax credits, and other available sources. It is also aware of the funding opportunities available through the American Reinvestment and Recovery Act.

■ **Design.** Both Ambient Energy and Hutton Architecture Studio understand the design process and know how to squeeze maximum efficiency from public buildings. During design, the consultants will assist in evaluating energy-efficiency measures and provide guidance on incorporating new and emerging energy-efficient technologies

into projects. Additionally, they help owners understand the importance of proper building orientation, envelope design, daylighting, energy modeling, commissioning, design charrettes and building certification.

■ **Construction.** GEO HPBP consultants are willing to get their boots muddy to ensure building owners meet their project goals and benchmarks. GEO high-performance building consultants will make select site walkthroughs, help contractors create waste management plans, review project checklists and more. Within the GEO HPBP time resources, project teams can request customized assistance based on that team's expertise and the project's needs.

■ **Operations and maintenance.** The true measure of high-performance depends on a building's durability, low energy consumption, occupant health and satisfaction, and operations and maintenance success. The High-Performance Building Program promotes an integrated design and project approach that considers the end operations and maintenance results during planning and design phases, leading to successful operations and maintenance during occupancy. The GEO's HPBP also will document project accomplishments and performance to develop case studies and share information.

"There are monumental opportunities for beautiful and sensitive energy-efficient decisions throughout the design and construction process," said Paul Hutton, principal, Hutton Architecture Studio. "Through the Governor's Energy Office, we have a chance to help building owners create better buildings for their communities and create lasting value in Colorado's built environment." ▲