



Search ACEC:

News

print version

[ADVANCED SEARCH](#)

Last Word

Industry News Briefs

September 24, 2009 Headlines

[\\$100 Million Available for Green Transportation Initiatives](#)
[Huge Opportunities in Making Building Stock Energy Efficient](#)
[BIM and Constructability Combine To Produce Better Design](#)

Industry News

\$100 Million Available for Green Transportation Initiatives

U.S. Department of Transportation (09/21/09)

The U.S. Department of Transportation has announced \$100 million in American Recovery and Reinvestment Act of 2009 funding for 43 transit agencies that are "pursuing cutting-edge environmental technologies to help reduce global warming, lessen America's dependence on oil and create green jobs." "This is a sign of things to come," says Transportation Secretary Ray LaHood. "This shows how investing in green transportation not only helps the planet, but creates jobs and strengthens our economy. It also shows how much more we can do." Among the projects receiving funding are the construction of wind energy generation turbines in Massachusetts and installation of solar panels at transit facilities in Washington state.

[Free Web Link](#), May Require Registration

Huge Opportunities in Making Building Stock Energy Efficient

San Francisco Chronicle (09/06/09) P. A1; Stannard, Matthew B.

Lawrence Berkeley National Laboratory researcher Evan Mills says the practice of building commissioning, in which the energy efficiency of commercial buildings is maximized, could save the United States \$30 billion in annual energy costs, cut greenhouse gas emissions by over 300 million tons a year, and create thousands of new jobs. Mills estimated in July that commissioning the country's approximately 5 million commercial buildings would yield more value for the money than any other alternative energy programs. As little as 0.03 percent of existing commercial buildings and 5 percent of new ones undergo commissioning for energy efficiency, according to a 2000 survey. Energy commission specialist Norm Bourassa says building commissioning received a boost in 2004 when California Gov. Arnold Schwarzenegger called for 20 percent energy savings in all state-owned buildings by 2015. Subsequently, about 50 percent of all commissioning activity in the country has occurred in California. How comfortable a building is does not reflect its energy efficiency, and owners and managers of both public and private buildings are guilty of overlooking energy efficiency in consideration of comfort, according to a July report from the U.S. Department of Energy's inspector general. The chief goal of building commissioning is to examine the building's design to determine whether it fulfills tenants' requirements in an energy-efficient manner. Mills' proposal involves commissioning all U.S. commercial buildings within a decade and

reassessing and fine-tuning them in five-year intervals.

[Free Web Link](#), May Require Registration

BIM and Constructability Combine To Produce Better Design

Structural Engineer (08/09) Vol. 10, No. 7, P. 26; Ruby, Jay

When used together, building information modeling (BIM) and constructability can span the design and construction fields by supporting dialogue, collaboration, and creativity. As a result, the design team can make smarter decisions, and project efficiency and quality can be enhanced. Constructability gets design and construction players involved at the earliest possible stage, preferably at the conceptual planning level prior to the completion of a substantial design. This maximizes available construction know-how and experience. Every designed and constructed edifice is tailored to the uniqueness of each site's subsurface conditions, seismic considerations, and loading criteria. The integration of BIM and constructability addresses potential design issues and prevents construction problems by not just blending design disciplines, but also embedding construction knowledge into the design process. Through the BIM/constructability combination, the design team can know more about the other systems linking to the structural design so load concentrations can be better comprehended during construction. This has the effect of helping the design and construction team organize "hidden" systems efficiently, making the most of floor-to-ceiling heights and lowering total building costs.

Department of Energy Announces Up to \$40 Million in Available Funding for Next Generation Nuclear Plants

U.S. Department of Energy (09/18/09)

U.S. Energy Secretary Steven Chu announced on Sept. 18 that the Department of Energy (DOE) will allocate up to \$40 million to finance the design and planning of Next Generation Nuclear Plants (NGNPs). NGNPs will utilize high temperature, gas-cooled reactor technologies to combine multiple industrial applications in one plant, and extend application of nuclear energy into the industrial and transportation sectors, lowering fuel consumption and pollution and making existing commercial light water reactor technology safer. "Support for new developments in nuclear technologies will be critical to meeting our energy, climate and security goals for years to come," noted Chu. "Next Generation Nuclear Plants hold the promise of safe, cost-effective, zero-emissions energy for major U.S. industries that are some of the largest energy consumers in the country. By integrating multiple industrial processes, this next generation technology will offset imported fossil fuels, reduce pollution and create tens of thousands of quality jobs in industries across America." Industrial processes in high energy consuming sectors are responsible for about 40 percent of U.S. greenhouse gas emissions, and the process heat or steam produced by the high temperature nuclear reactors in NGNPs will be used to run various applications. The NGNP initiative is being executed in two phases, with research and development, conceptual design, and development of licensing requirements encompassed in the first phase. The second phase will involve detailed design, license review, and construction that would lead to a demonstration facility by 2021 that can generate hydrogen, electricity, and/or process heat. The Funding Opportunity Announcement (FOA) released on Sept. 18 will support the development of cost-shared conceptual design(s), cost and schedule estimates for demonstration project completion, and a business plan for integrating Phase 2 activities. The due date for applications to the FOA is Nov. 16, 2009. DOE will use the information and data collated in Phase 1 as a platform for ascertaining whether the project should proceed to Phase 2.

[Free Web Link](#), May Require Registration

Tablet PCs Boost Multifamily Construction, Maintenance Tech

Multifamily Executive (09/09) Wood, Chris

Doster Construction is among the firms in the multifamily construction industry that have been adopting tablet PCs for a wide variety of job-site tasks, taking advantage of their larger screen size and greater power compared to PDAs. "With the PDAs, we were basically limited to doing punch lists," says Doster network support specialist CJ Rainer. "The functionality and software of today's tablets mean we can basically do anything that we could do at a desktop PC: issue safety reports, access hotlist items, scheduling, plan review, anything you can think of. It really takes project management to a whole new level." Doster evaluated a variety of tablet PCs before choosing to use the F5 tablet model from Motion Computing, a Texas firm that says multifamily and commercial construction as one of its fastest growing vertical markets. The rugged F5 tablets, which run Windows XP on Intel Core Duo processors, have a 10-inch screen with a stylus and menu interface, a

bar-code scanner, and a digital camera, and are wireless card compatible. The Colorado-based software firm UDR has been working on a variety of application ideas for maintenance and service workers using bar-code functional tablet PCs and handheld devices. "We're writing a mobile application for iPhone service request," says UDR vice president of marketing Steve Taraborelli. "But we are also seriously looking at barcode technologies for parts and inventory management and also for the service request side of the business." According to Bryan Love, project manager for scheduling and quality control at Doster, the handwriting recognition is one impressive aspect of the systems: "You can imagine some of the guys we have on site don't have the best handwriting in the world, and it picks it up pretty well. With a portable projector, we envision being inside a building under construction where you have an 8 foot wall to beam out your plans, and everyone can be right there and looking at it as opposed to be cramped in a construction trailer. We really think the efficiencies and improvements from the technology are endless."

[Free Web Link](#), May Require Registration

Construction Workers Account for One-Third of Job Losses

Finance and Commerce (09/15/09)

Reflecting the disproportionate impact the economic downturn has had on the construction industry, the U.S. Bureau of Labor Statistics shows that nearly one-third of jobs lost in August were construction jobs. "While most Americans are experiencing a recession, construction workers are being forced to cope with depression-like conditions," said Ken Simonson, chief economist for the Association of General Contractors. "There's nothing good in (this) report for the nation's construction workers." Construction employment across the country was down by 65,000 jobs in August, and 1.4 million construction workers have lost their jobs since the recession began. This has resulted in a 16.5 percent unemployment rate among construction workers, according to Simonson.

[Free Web Link](#), May Require Registration

Construction Cost Trend Remains Negative Despite August Increases

Associated General Contractors of America (09/15/09)

New figures issued by the U.S. Bureau of Labor Statistics indicate that prices for the construction sector remain significantly down from a year ago in spite of August rises in construction costs, reports Ken Simonson, the chief economist for the Associated General Contractors of America. He says the producer price index for inputs to construction industries climbed 1.1 percent last month versus July, on account of a 17 percent rise in the cost of diesel, a 6.8 percent increase in steel prices, and an 11 percent boost in copper prices. However, Simonson notes that negativity is a hallmark of the overall construction trend. The cost of construction is down 7.4 percent compared to last August, while the cost of diesel is still down 41 percent, steel down 36 percent, and copper down 14 percent from the previous year. "Prices haven't been this competitive for construction services in a long time, but once the domestic and global economy heats up, they are likely to rise again," Simonson projects. "Public officials and private developers should act now to cash in on what is clearly a limited-time sale for construction."

[Free Web Link](#), May Require Registration

Hawaii Tries Green Tools in Remaking Power Grids

New York Times (09/15/09)

With the most diverse array of alternative energy potential of any state in the nation, Hawaii has set out to become a living laboratory for the rest of the country, hoping it can reduce its dependence on fossil fuels while meeting its power needs. However, the state faces enormous challenges in delivering the power to the people who need it. Most potential renewable sources are far from the city of Honolulu, where the vast amount of energy in the state is consumed. Each of the state's six electric grids belongs to its own island and is unconnected to the others. According to state figures, Hawaii still relies on imported oil to generate 77 percent of its electricity, a level of dependency unique in the United States. Coal-fired power provides 14 percent, and 9 percent comes from renewable sources like the wind or the sun. Hawaii's governor, Linda Lingle, a Republican, has resolved to end the state's oil dependence and harness its alternative energy potential. Under an agreement reached in 2008 with the federal government and the dominant local utility, the Hawaiian Electric Company, Hawaii plans to generate 40 percent of its power from renewable sources by 2030. The state's six grids will be connected by cables, and planners hope that conservation steps like reducing the air-conditioning load at high-rise hotels will cut Hawaii's energy consumption by nearly a third. "The goals are very, very aggressive," said Debra Lew, a senior project leader for the federal National Renewable Energy Laboratory.

[Free Web Link](#), May Require Registration

Green Transit Advocates Seek Advantage

Politico (09/14/09) Phillip, Abby

Advocates of environmentally friendly transit are hoping to use a Senate energy bill focused on global warming emissions as a means of moving transportation policy toward transit alternatives. "I am cautiously optimistic that we'll come out better on the Senate side than in the House," said Paul Dean, the director of government affairs for the American Public Transportation Association. "That could conceivably almost double what is put into transit infrastructure from the government." Meanwhile, the stalled progress of the Surface Transportation Act and questions about future transportation funding has also had transportation advocates in general seeking paths for faster action on the deteriorating transportation infrastructure. "There is never a good time to ask Americans to pay more for something, but the case can easily be made that you get what you pay for," said Janet Kavenoke, a U.S. Chamber of Commerce transportation lobbyist. "If there is any time, the time is now. The jobs are needed, and the calls for reform have been made." For their part, White House officials argue that the \$48 billion of transportation money in the stimulus bill will blunt the impact of the delayed reauthorization act.

[Free Web Link](#), May Require Registration

How Green Is Your Campus?

Nature (09/10/09) Vol. 461, No. 7261, P. 154; Mascarelli, Amanda Leigh

Universities and colleges across the United States and the world are striving to imbue sustainability into their campuses, and could serve as a model for other institutions. However, Pomona College President David Oxtoby observes that there is as yet no universal system for quantifying sustainability because schools are faced with different challenges. About 650 U.S. education institutions have pledged to become climate neutral through the American College & University Presidents' Climate Commitment. To measure their greenhouse-gas reductions and efficiency gains, most schools use standardized emissions inventories such as Clean Air-Cool Planet's Campus Carbon Calculator. Meanwhile, numerous U.S. schools have pledged to satisfy the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) standards. Eight years ago, Emory University in Georgia constructed the first LEED-certified building in the southeast, a biomedical research facility. Four years ago, Emory became the first U.S. university to receive LEED certification for an existing building when it renovated its business school. Emory and other aggressive U.S. schools in the campus sustainability movement have elected not to sign the presidents' climate commitment, partly because of doubt that the plan's concentration on carbon neutrality will work. Attaining carbon neutrality will require the purchase of offsets, which often draw flak because they permit a polluter to pay a fee to support a green activity to "offset" the polluter's carbon delinquencies.

Chasing the Sun

Technology Review (08/01/09) Vol. 112, No. 4, P. 44; Rotman, David

Much of the money contained in the U.S. government's stimulus bill is expected to be invested in renewable-energy projects. A recent study by the U.S. Department of Energy's (DOE) Energy Information Administration anticipates that the bill will elevate the amount of generating capacity from renewable sources from 114 gigawatts today to 156 gigawatts in 2015. However, this infrastructure upgrade will have only a minor long-term impact on carbon dioxide emissions and would not go a long way to fulfilling U.S. energy demands. The DOE has initiated a massive infusion of funding into research in new renewable technologies, and the effect on the solar energy industry could be especially significant. Cost issues, however, have limited the amount of total U.S. electricity capacity that solar power now accounts for to 1 percent. Brightsource Energy is testing a solar power plant in which tens of thousands of mirrors concentrate sunlight on a central boiler atop a tower, and the viability of the project is greatly dependent on the stimulus funding. The secretary of energy announced 46 new energy centers in April, of which more than half are doing work related to solar power. Two of the eight new DOE innovation hubs will concentrate on solar technologies, and a DOE-funded energy research center at Caltech will focus on the development of materials that could allow thin-film photovoltaics to absorb sunlight with greater efficiency.

[Free Web Link](#), May Require Registration

First Edition? Inventor Attempts to 'Print' Building

Building (09/18/09) Abrahams, Tim

The Italian company d_shape is pioneering a method of using "structural ink" to create buildings via three-dimensional printing, using a nozzle like a computer printer's inkjet to produce the building within an aluminum frame. The structural ink, which can bind sand or gravel into a material resembling marble, will first be used to build a pavilion on a small roundabout in Pontedera, a town in Tuscany. Blocks printed near the roundabout site will be assembled on-site to produce the Radiolaria pavilion. Inventor Enrico Dini, who holds patents for the technology under the umbrella of the British firm Monolite, hopes someday to use the technique to take on architecture's biggest challenges—such as completing the Sagrada Familia cathedral in Barcelona designed by Antoni Gaudí, which has been under construction for more than 125 years. "We hope to use d_shape to complete the cathedral," he said.

[Free Web Link](#), May Require Registration

A New Shade of Green

Urban Land Magazine (08/09) Canterbury, Matt

Green construction has moved beyond the conceptual stage to produce real buildings, goals, materials, standards, and other innovations, becoming a mainstream part of design and development. The U.S. Green Building Council (USGBC) has grown from about 500 members to nearly 20,000 members during this decade, with increasingly expansive and sophisticated LEED guidelines. Innovation is becoming faster and faster in areas such as solar power, wind power, use of thermal and radiant heating, turnstile door-powered engines, natural lighting, and recycled and sustainably harvested materials. Landscape efficiency is growing in the form of smart irrigation and daylight sensing and timers, among other innovations, and green retrofitting of buildings has become viable as well. Modular housing could prove a new sustainable development strategy, and a North Carolina State University research team has put together a method for reducing the need for steel in concrete beams for parking garages. Overall, developers are moving toward the idea of a "triple bottom line" in which people's health and well-being, the planet's condition, and the project's potential for profitability are all of equal importance.

[Free Web Link](#), May Require Registration

HDPE & Pre-Chlorinated Pipe Bursting Helps to Rehab Michigan Water Pipes

Trenchless Technology (08/09) Vol. 17, No. 8, P. 30; Cooper, Steve

Livonia, Mich., was able to preserve its water system and control costs by choosing long-lasting, leak-free high-density polyethylene (HDPE) pipe that supports the trenchless method of installation. The most cost-effective construction technique was determined to be pre-chlorinated pipe bursting, in which pulling the HDPE pipe through the failing ductile iron pipe causes the old pipe to burst. "We were putting in a total of more than 27,000 feet, which means a savings of more than \$200,000 just for the pipe, not including cost associated with the labor and time that would be needed to handle and install the much heavier iron pipe," says Livonia Mayor Jack Kirksey. "The end-result is that we were able to do this without raising the rate for water." The flexibility, strength, and durability of HDPE pipe supports the ability to horizontally directional drill the pipe in tight spaces. "Officials on the state, town, city, county and federal levels find [polyethylene pipe] to be an economical and environmentally-sound solution with proven longevity and reliability to replace aging pipe systems," notes Plastics Pipe Institute executive director Tony Radoszewski.

[Free Web Link](#), May Require Registration

Shake-Table Tests Prove 'Rocking' Frame

Engineering News-Record (09/14/09) Vol. 263, No. 9, P. 90; Post, Nadine M.

Recent shake-table tests have demonstrated the viability of a "rocking" braced frame in the pursuit of research to develop tools for seismic engineers to design structures for repair, according to lead project investigator Gregory G. Deierlein. He says that "the structure will be safe, intact and plumb" following a major earthquake. The system is comprised of a braced steel frame designed to rock up and down, along with an energy-dissipating fuse and vertical post-tensioning for self-centering. The system is deliberately designed to employ standard construction materials and practices to minimize additional costs. The engineers are planning to apply the concept to other framing materials, such as wood, concrete, and masonry. "Whether any such system will have a big impact on the building industry will ultimately depend on its cost and schedule impacts compared to more conventional construction," notes engineering consultant Joe Maffei. "But to even get going, an engineer needs to be an early adopter and champion of the system, and building departments need to accept a nonprescriptive seismic design." It is Deierlein's contention

that the system can work with careful, full connection detailing by the engineer and proper education of the steel manufacturer.

© Copyright 2009 [INFORMATION, INC.](#)