TECHNOLOGY UPDATE

Panasonic Partners with Denver to Develop 'Smart City' Pena Station Neighborhood

This spring, developers will break ground on Peña Station, a futuristic neighborhood on the outskirts of Denver. The site was chosen by Japanese technology behemoth Panasonic, the city's partner in the project, as a testbed for self-driving vehicles, solar power, and smart home technologies. Already, the site is outfitted with 53 intelligent LED streetlights and a parking lot covered with solar panels. An EZ10 autonomous shuttle is slated to arrive later this month—the same self-driving buses that hit Helsinki streets in August.

The neighborhood will also be monitored by a sensor system tracking air pollution, cloud cover, humidity, noise, and temperature.

Construction of the development's residential buildings is scheduled to begin in March. Once completed, the 400-acre site will be a mixed-use neighborhood with an anticipated economic impact of $82 billion a year.

At the recent Consumer Electronics Show in Las Vegas, Panasonic showed off some of the technology that may appear in Peña Station:

- **Transparent TVs**: Panasonic's transparent video displays essentially turn a window or surface into a TV screen. Windows frosted over on command can display a cooking lesson video.
• **Smart Kitchens:** The sake fridge keeps shelves at different temperatures. Tap the glass, and the temperature of each shelf is displayed, the type and brand of sake, or recipes for dishes to pair with drinks. When you select a recipe on the sake fridge door, other appliances are triggered to help prepare the meal - a cooking video is displayed and the oven preheats to the appropriate temperature. The kitchen counter is an induction stove top, so wherever a compatible frying pan or pot is set down, the range turns on. The range hood has built-in cameras and sensors that "see" the food cooking and adjust the temperature to avoid burning.
• **Multi-purpose table:** The new Panasonic smart table has all sorts of built-in technology, including a transparent video display that can show family slide shows or images captured by a connected security camera. The table also has wireless induction charging so if you set a smartphone next to your plate, the device will charge while you eat. [More]

**First Gutter Guard Obtains UL Certification To Harvest Rainwater for Drinking**

Gutterglove, Inc. has unveiled the industry's first gutter guard that is certified to harvest rainwater for drinking. The gutter guard is certified in two ways by Underwriters Laboratory (UL): for NSF P151, which covers the health effects from rainwater catchment system components; and NSF 372, which covers lead content analysis. The system could prove to be especially useful in drought-prone areas of the country.

The gutter guards are made of stainless steel micro-mesh and keep out leaves, pine needles and tiny roof sand grit from the gutter. This eliminates the need to clean gutters, all while collecting rainwater in a harvesting system. [More]

**Wind Overtakes Hydro as Top Renewable in U.S.**

Last year was a big one for wind power in the U.S. For the first time, the total installed capacity of the country's wind farms exceeded that of hydroelectric projects to reach a total of 82,183 megawatts - enough to run some
24 million American homes.

The U.S. Department of Energy says that 8,203 MW of wind capacity was installed in 2016. Texas by far has the most installed capacity, with 20,321 MW. (The next closest state is Iowa with 6,917 MW, then Oklahoma with 6,645 MW.)

The surge has helped make wind turbine technicians the fastest growing job in the U.S. over the last decade. More than 101,000 people were employed in the industry in 2016, DOE said, up 32% from the previous year.

Solar also had a great year, with 14,626 megawatts of new capacity coming online - about twice as much as the previous year.

Renewable energy provides about 13% of the electricity produced in the U.S., according to the U.S. Energy Information Administration. [More]

Inclusion of HERS in Appraisals
Aims To Increase Appraisal Accuracy

Developers of the Home Energy Rating System and the Appraisal Institute are teaming up to give home buyers a better understanding of how much it will cost to live in the houses they're interested in buying.

The Insulation Institute said the collaboration between the Residential Energy Services Network and the appraisers association to include HERS scores on appraisal forms in some states would make energy efficiency more transparent to buyers. The move also could help convince skeptical builders that there's a return on constructing high-performance buildings.

The HERS Index is a numerical rating system that measures energy consumption relative to a standard reference house. The reference house, a standard new home, has a score of 100; a house with a HERS Index of 70 uses 30% less energy, while a house with a HERS index of 130 uses 30% more energy. The lower the HERS score, the lower the energy costs.
Builders of high-performance houses have long complained that standard appraisals fail to give enough credit for energy-saving features.

"One of the largest barriers to the building and selling of high energy performance homes is that the value of energy upgrades is too often not reflected in the real estate appraisal of a home," RESNET Executive Director Steve Baden told the Insulation Institute. Baden said when a home feature isn't formally acknowledged in an appraisal, it can't be financed through a mortgage. That means builders don't see a financial return on including high-performance building features, a problem that this new effort seeks to fix.

The HERS score will be added to the existing green-building addendum for appraisers.

Trump's Budget Would Eliminate Many Building Industry Programs

President Trump's proposed federal budget scales back or eliminates many domestic programs, including several with ties to the home building industry.

On the chopping block are the Energy Star program, community development block grants, the Weatherization Assistance Program, and the Low-Income Home Energy Assistance program. Cutting back or axing these programs would save the federal government hundreds of millions of dollars, reports USA Today.

Residents Complain LED Street Lights Disrupt Sleep, Cause Health Concerns

In an attempt to save energy, a number of communities across the country are replacing traditional street lamp light bulbs with a more energy-efficient, LED alternative. But some residents are complaining that replacing the yellow hue lights with brighter, blue tinted bulbs is impacting their sleep, reports Brian Wheeler for BBC
News.

They point to a recent report by the American Medical Association (AMA), which warns that the blue light emitted by first generation high-intensity LEDs, used in many cities around the world including New York, can adversely affect circadian sleep rhythms, leading to reduced duration and quality of sleep, "impaired daytime functioning" and obesity.

The AMA report calls on cities to use the lowest-intensity LEDs possible and shade them better to reduce glare, which it warns can also harm wildlife.

As of right now, about 10% of the country's street lights have been converted to LEDs, and the Department of Energy estimates that if the whole country switched to LEDs over the next twenty years it would save $120 billion over that time period. [More]

LEED to Certify Entire Communities, Cities

The U.S. Green Building Council (USGBC) is attempting to take LEED to a whole new scale as it launches two new certification programs: LEED for Cities and LEED for Communities.

To pursue certification, a community or city first applies for "precertification" by creating a roadmap that sets out goals and defines a plan for reaching those goals. Once a project's roadmap is approved, the city or community enters a year's worth of actual performance data about energy, water, waste, transportation, and human experience into Arc and receives a performance score. [More]

Top Five Features Most Wanted by Home Buyers

Among the top five design features found to influence home purchase decisions of all buyers, ENERGY STAR appliances, an ENERGY STAR rating for the whole home, and ENERGY STAR windows were considered essential or desirable to over 80% of respondents. These results

Recent Certifications

St. Lucie County
Location: Fort Pierce
Type: Local Government
Certified: 1/30/17
Score: 46
Level: Silver

Centro
Location: Miami
Type: High-Rise
Certified: 12/16/16
Score: 154
Level: Silver

Recent Registrations:

Cudjoe Key Fire Station
Location: Cudjoe Key
Type: Commercial
Size: 8,038 s.f.

Sheridan Warehouse
Location: Hollywood
Type: Commercial
Size: 90,000 s.f.

Village of Pinecrest
Location: Pinecrest
Type: Local Government
Population: 19,055

Grove House
Location: Miami
Type: High-Rise
Size: 68,513 s.f.

FGBC Committee Meetings

Board of Directors
2nd Wednesday
Monthly
3 p.m.

Commercial
1st Tuesday
Monthly
2 p.m.

Education
1st Thursday
Monthly
3 p.m.
indicate that buyers are increasingly influenced by the efficiency of a home, but that doesn't necessarily mean that incorporating energy-saving features can increase the probability of making a sale.

The report notes that respondents were explicitly asked not to consider cost implications when rating home features. Buyers are placing more emphasis on energy-efficiency (and the preference for those features increases with age), but only 14% of all buyers (and 13% of Boomer buyers) are willing to pay more for a home with those features out of "pure concern for the environment." Buyers will only pay more for efficiency if they will have lower annual utility costs in return, and the rate of return they require is substantial:

Rate of return required to make utility cost-saving investments:

Median (all buyers): 20.0%
Median (Boomer buyers): 20.0%
Average (all buyers): 9.3%
Average (Boomer buyers): 10.1% [More]

Florida Water Star Issues
First Existing Building Certification

The recently overhauled 900 Building on University Boulevard North

A 43-year-old office building on University Boulevard North in Jacksonville has received an energy and water makeover and has receive the first-ever Florida Water StarSM certification for existing commercial buildings
within the St. Johns River Water Management District.

"Over the past five years, we have seen public supply water use decrease even as our population increases. Changing water use behavior is a long process, and Florida Water StarSM is one of numerous district programs that promotes water conservation," said St. Johns River Water Management District Executive Director Dr. Ann Shortelle. "I applaud Custom Builders for its commitment to water conservation and for setting a great example for other existing commercial properties."

The new owners of the 900 Building, Daryl Grubbs and Dick Lundy, worked diligently to achieve the certification. Grubbs and Lundy focused on three main areas to reduce water use. Outdoors, the irrigation system is no longer being used and the existing, well-established plants and trees sustain on rainfall alone. Indoors, the bathrooms have been updated with high-efficiency toilets, urinals and faucets. In addition, they upgraded the HVAC system to use a lower quality water source.

Florida Water StarSM is a water conservation certification program for new and existing homes and commercial developments. Standards and guidelines for water efficiency are included for indoor fixtures and appliances, landscape design and irrigation systems. The program now has more than 2,500 homes certified. Beyond residential homes, an additional 13 communities were certified, contributing to a total of 4,100 residences.

Florida Power & Light Building 8 New Solar Plants

Florida Power & Light Company (FPL) announced the names and locations of its 2017 and 2018 universal solar projects, consisting of eight new 74.5-megawatt solar power plants that will be built over the next 12 months.

The following four plants are expected to be completed by Dec. 31, 2017:

- FPL Coral Farms Solar Energy Center, Putnam
County

- FPL Horizon Solar Energy Center, Alachua and Putnam Counties
- FPL Indian River Solar Energy Center, Indian River County
- FPL Wildflower Solar Energy Center, DeSoto County

And the remaining four plants are expected to be completed by March 1, 2018:

- FPL Barefoot Bay Solar Energy Center, Brevard County
- FPL Blue Cypress Solar Energy Center, Indian River County
- FPL Hammock Solar Energy Center, Hendry County
- FPL Loggerhead Solar Energy Center, St. Lucie County