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Technology Wanna go green? Tell architect, contractors

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8Technology

Members of the Partnership for Advancing Technology in Housing (PATH) spend a lot of time thinking about the future of housing.

What will make homes safer and more efficient? How can homes be constructed faster?

Coordinated through the U.S. Department of Housing and Urban Development, PATH is a private-public partnership with leaders of the home-building, product manufacturing, insurance and financial industries and representatives of federal agencies concerned with housing.

Their Top Technologies list, first introduced in 2004, takes a glimpse into the future of home-building and alerts homeowners to valuable innovations ready for adoption.

These top technologies hold the promise of making our homes more durable, stronger and more resource efficient. They are selected for their strengths in one or more of the following areas:

*Quality and durability

*Affordability

*Energy efficiency

*Environmental performance.

*Safety and disaster mitigation

Mold-resistant gypsum - Survivors of the floods of the last few years would

not have such extensive loss of property if this type of gypsum had been available years ago.

Treated gypsum wallboard products resist mold because they don't absorb moisture as easily as typical gypsum board. The paperless surface of such products does not support mold growth.

Solar power for the shower - Solar water heaters have been around since the 1800s. However, with new federal tax credits, they are now a more affordable alternative (\$1,000 to about \$3,500) and one that is growing in popularity because of environmental benefits as well as energy cost savings.

Gray concrete goes green - Byproducts of the industrialized world have found a better final resting place in alternative concrete substitutes and aggregates. Recycled materials such as granulated coal ash, blast furnace slag and various solid wastes like fiberglass and granulated plastics can substitute for sand, gravel and stones.

Different admixtures can improve workability, curing temperature range, fire control, set time or color. And relying less on mined materials is a benefit for everyone.

Make your power and heat it too - Combined Heat and Power (CHP) is not just for isolationists anymore - commercial and industrial facilities have been using it for years and now it's available to homeowners.

Whether those homeowners want to be entirely off the power grid or they just want to supplement the utility power, CHP systems can supply electricity much more efficiently than power plants.

Using fuel such as natural gas to produce heat and electricity simultaneously, a CHP system can act as a built-in emergency generator. The electricity can power any household device, such as lights and appliances, and the heat produced can provide water heating or heat spaces. Home-sized units range in capacity from about 1 kW to 6 kW and are about the size of a major appliance.

Save energy, water, space and time - Horizontal axis washers/dryers are two-in-one units that run automatically from wash to dry so that users don't have to throw clothes from one machine to the other. The compact size makes it perfect for apartments and condominiums, and the units cost less than two separate units.

Such machines run quietly and require no venting, so they can be installed almost anywhere. The high efficiency horizontal-axis washer reduces water and energy consumption, and the high RPM (rotations per minute) spin cycle means the dryer uses less energy to dry the clothes.

Windows that do windows -Now homeowners can get self-cleaning and glare-reducing windows that also reduce the risk of window failure during tornadoes and hurricanes.

In Hydrophilic, Impact-Resistant Windows, a window coating causes water to run off the glass surfaces like quicksilver, preventing permanent water spots and making the glazing easier to clean.

Plus, glass laminated with composites provides enough strength to allow windows to withstand high winds, projectiles and even bullets.

A cool way to cook - Induction cooktops offer flexible, safe and energy-efficient cooking. They can go from extremely low to extremely high settings and back again nearly instantly.

The stovetop doesn't actually heat up or radiate heat from its surface because the heating elements under the ceramic-glass surface use electricity to produce a magnetic field that heats only the cooking container.

Food heats much faster, which saves energy while pleasing hungry mobs. Induction cooking is about 90 percent energy efficient, while gas and electric are about 50 and 60 percent efficient, respectively.

Surfaces for all seasons - Rainwater seeps through Permeable Pavers & Pavement systems and filters naturally through soil on its way to groundwater aquifers and surface waters. That means less unfiltered, nitrate-laden stormwater running off paved surfaces into drainage gutters. And since engineered curb and gutter storm drainage systems are costly to design and build, permeable pavement systems can mean lower construction costs for developers or municipalities.

For more information, visit online at www.pathnet.org or contact your local home builders association. To sign up for NAHB's free consumer e-newsletter, visit www.nahb.org/housekeys.

This article was excerpted from an article by Genilee Swope Parente, managing editor of Building Women. It was published in the Spring 2007 edition of the magazine.

CUTLINES:

AP illustration/Homestyle Plans and Publications Designer Network

Environmental considerations must be included when your dream house is in its earliest stages, when builders are drawing up the plans. ABOVE: Brick and stucco materials accented by round-top windows provide a sturdy, traditional feel to this home.

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