

## All signs are pointing to a more environmentally friendly Albuquerque.

The concept of sustainability—meeting the needs of today's population without compromising those of future generations—is a cornerstone of the green movement in the Duke City. From homebuilders to architects, car dealers to solar panel manufacturers, local businesses and organizations are introducing novel ways to preserve resources for the future.

By Richard S. Dargan



### Car Smarts

Carlos Garcia's plans to bring the diminutive Smart Car to Albuquerque in 2007 were met with considerable skepticism.

"People thought I was crazy," he recalls. "They said, 'Nobody's going to buy it."

Two years later, Garcia, general manager of Smart Center, the only Smart Car dealer in New Mexico, is having the last laugh. Not only are New Mexicans buying Smart Cars; there's a one-year waiting list for a new one.

With a fuel economy of 40 miles to the gallon on the highway and a sticker price of only \$14,000 for a well-equipped model, the Smart Car is proving to be the ideal conveyance for these tough economic times. Garcia sold 250 in 2008 and expects to sell 400 in 2009.

"The Smart Car is the most fuel efficient gas powered car on the market," says Garcia, whose Smart Center is now the largest in the country in square feet. "It's bucking every economic trend."

Next to the hulking SUVs and pickup trucks that crowd our roads, the teensy Smart Car looks like something that escaped from a toy store. The car measures only about 106 inches long (that's less than half as long as a Chevy Suburban). Two Smart cars can fit snugly into one conventional parking space, and the car is so compact it can even be parked perpendicular to the curb.

All of which inspires the question: is it safe?

"That's always the first question people ask me," says Garcia with a laugh. "And then I tell them it has a five-star crash rating, the highest rating possible."

The car earned that rating thanks to four air bags and a tridion safety cell, a steel housing for the driver and passengers that displaces the force of any collision over a large area of the car.

"You ride a little bit higher than you do in a sports car," says John Blueher, an Albuquerque builder now on his second Smart Car. "It doesn't make you feel vulnerable."

Mercedes Benz builds the Smart Car at a production facility in Hambach, France. The facility, known as "Smartville," is built on a landfill site and uses a number of innovative, environmentally conscious technologies in the production process. For instance, instead of primers, the Smart Cars receive a powder coating, which uses 40 percent less energy with no solvent emissions or water consumption.

"The car is almost entirely recyclable," adds Garcia. "Even the containers for the parts



Carlos Garcia is smart about Smart Cars.

Beyond value and ecology, Smart Car

owners like the fact that their ride is highly

customizable. Many owners cover the body

graphics— or swap the interchangeable body

panels and show off their work at rallies across

headlights and lips on the front end," Garcia

says. "And they all have names for their cars."

common sight on Albuquerque's roads. But for

now, it still causes a stir wherever it goes.

"When I'm driving it, I get a lot of waves."

"Our customers will put eyelashes on the

One day, the Smart Car likely will be a

"People respond positively," Blueher says.

can be recycled."

the country.

# If These Walls

**Could Talk** Take the concept of bringing plants indoors and multiply it by several orders of magnitude and you have the Naturaire Living Wall, a vertical display of foliage in the lobby of the new business incubator for the Women's Economic Self-Sufficiency Team, or WESST, in East Downtown.

Studio Southwest Architects in Albuquerque collaborated with Nedlaw Living Walls, a Canadian firm, to install the 17 feet wide by 24 feet wall in 2008. The wall includes a wide range of foliage and flowering plants



At first glance, the living wall looks like some kind of 3-D art installation. But there's a function behind the decoration, according to Shary Adams, principal architect at Studio Southwest.

The plants serve as kind of biofiltration system integrated into the air handling system of the building. Once air is drawn through the plants, specialized biological components degrade indoor pollutants such as formaldehyde and benzene into harmless constituents of water and carbon dioxide. A mechanical system distributes the clean air back into the building, with a little extra moisture to boot.

"Plants are a natural way to filter the air," Adams says. "And the added humidity is very welcome in a climate like ours."

The living wall helps make a building more energy efficient by reducing the amount of air that needs to be cooled in the summer. But there may be a boost for the workers inside the building too: there's evidence that it reduces stress and increases productivity.

"Not only do you have a nicer environment, but you'll see reduced absenteeism over the lifespan of the building, so the payback is quite quick," Adams says.

Nedlaw founder Alan Darlington, Ph.D., created the first living wall in Toronto in 1994, just as indoor air quality was becoming a serious environmental concern. Builders had been sealing office buildings more tightly to conserve heat and air conditioning, and the closed environment caused a build up of contaminants associated with respiratory conditions such as asthma. In 2003, the Environmental Protection Agency's Science Advisory Board ranked indoor air pollution as one of the top five risks to public health in the United States.

The workers at WESST can attest to the fact that the living wall



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boosts indoor air quality.

"When we moved in, I noticed that there were virtually no new carpet, fresh paint or construction chemical odors in the building," remembers Nancy McLain, reporting coordinator for WESST. "Even as the builder adds final touches, such as window caulking, the air remains enjoyably neutral."

The WESST project represents the first living wall installation west of the Mississippi, according to Adams. It's also slated to be the first city-owned building to achieve silver certification from the Leadership in Energy and Environmental Design, or LEED, Green Building Rating System.

LEED certification is a prestigious honor for buildings that use resources in a more environmentally friendly manner compared with conventional buildings.

## Green Gunerals

Environmental consciousness has reached even the slow-to-change funeral industry.

"More and more funeral directors are looking to meet the needs of green consumers," says Darren Crouch, president of Albuquerquebased Passages International, the world's largest provider of sustainable urns.



With more than two million deaths per year in the United States, the environmental costs of traditional burials are considerable. Materials used in caskets and embalming can be harmful to the soil, and casket production requires a significant amount of resources. In addition, traditional cemeteries use lots of water, fertilizers and pesticides to maintain the grounds.

Recent surveys indicate that a large number of people are interested in a simpler, more environmentally sustainable burial. In a November 2007 survey by the American Association of Retired Persons, or AARP,

# Photos by Liz Lopez/ATM

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28 percent of respondents said they would consider using a shroud or blanket instead of a coffin for burial, and 21 percent said they would be interested in a more environmentally friendly burial instead of a traditional burial with embalming.



Passages makes urns from biodegradable material such as recycled paper, mulberry bark, cornstarch and solid blocks of salt, which bear a remarkable resemblance to granite or marble, except that it dissolves in water.

Crouch, a British transplant, started Passages in 1999 in Taos and eventually moved the business to Albuquerque to take advantage of the city's larger labor pool and more varied facilities options. The company ships its products all over the world from its warehouse and showroom near the Fairgrounds.

Among Passages' more popular items is a shell-shaped urn for scattering ashes at sea.

"The shell floats a short time on the water before sinking, giving loved ones time to say a prayer," Crouch says.



Another popular item is a scattering tube for cremated remains. The tubes are made from recycled paper and have a perforated disc on top for scattering.

"The tubes allow family members to portion out the remains and scatter them in different places," Crouch says.

Passages also sells woven caskets made

of biodegradable materials like willow and sea grass. The caskets feature a tapered shape common in Europe and come in two different sizes

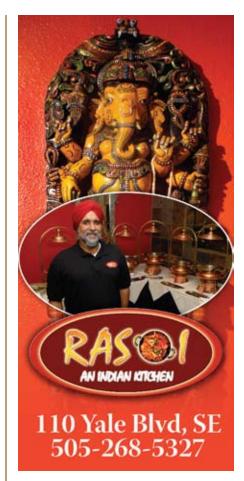
"The casket fits with whole green conservation theme of not taking up extra space," says Crouch.

The urns and scattering tubes are also available in smaller sizes for pets. Passages even carries products from an English company called Sentimental Connections, which will take the cremated ashes of your beloved pet, suspend them in a clear polymer and mold them into picture frames, earrings, pendants and other items (the treated ashes bear a passing resemblance to granite.)

The popularity of Passages echoes a broader change in the funeral business. There is a growing number of green cemeteries that make use of more natural methods (native vegetation that requires no irrigation or pesticides).

In addition, more Americans are opting for cremation. The U.S. cremation rate has increased from a little more than 20 percent in the 1990s to approximately 35 percent in recent years, according to Crouch.

Together, the greening of the funeral



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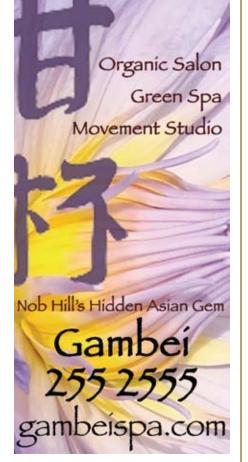




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industry and the rising cremation rate has boosted Passages' business.

"Our urn sales are growing, while traditional urn sales are stagnating," Crouch says.

### Homes Made of Straw

In the story of the three little pigs, the first little pig fared poorly with his strawmade house. That's because he didn't seek the expertise of a straw bale homebuilder. Companies such as Albuquerque-based Paja Construction have established a niche in the industry by using straw bales as an environmentally sustainable and cost-effective alternative for home construction.

Courtesy Photo

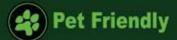
Straw, the leftover stalk of cereal grains like wheat and barley, is an inexpensive building material with a much higher "R factor," or insulation capability, than that of conventional walls.

"Straw bale homes are very well insulated and extremely quiet," says Cadmon Whitty, president of Paja Construction.

Whitty's company has built 64 houses and more than 300 privacy walls using straw bale







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construction. The company, which is named after the Spanish word for straw, also retrofits older, energy-inefficient structures, including trailers and mobile homes.

Straw bale homes costs approximately three to five percent more than conventional homes, according to Whitty, mostly due to the extra stucco needed to cover the thick bales.

But the payoff in energy savings is swift. After Whitty retrofitted his own home with straw bales, he saw his average monthly heating bill fall from \$200 to \$50.

Lower transportation costs are another environmental benefit of straw bale construction. While materials needed in home construction in New Mexico often have to be transported long distances, Whitty gets his straw bales from nearby Colorado.

"Straw bales are much more locally available than the lumber and metal in conventional building," he says.

### From the Sun

From its offices at the Mesa Del Sol development south of the airport, Advent Solar is building a better solar panel.

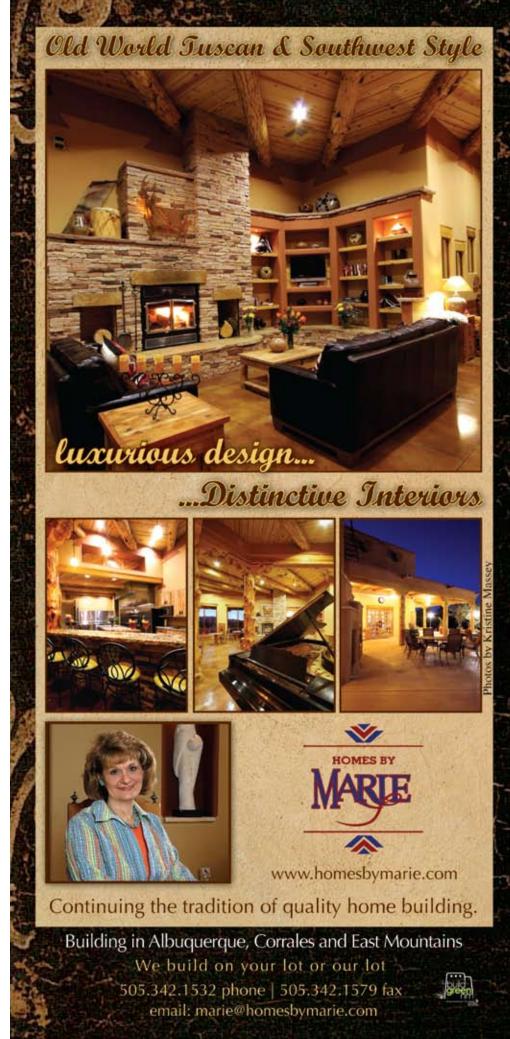


Advent's technological breakthroughs have taken the grid lines off the front of solar panels to allow for more efficient capture of light.

"Not only does this make the module more efficient, it makes it more visually appealing as well," says Naresh Baliga, Advent's vice president of strategic marketing.

The company also uses the novel production technique of placing solar cells on a preprinted sheet, which enables very precise, high volume manufacturing.

These innovations and others have earned the company a worldwide reputation. Last year, Advent signed a \$350 million agreement to supply solar wafers to a major German



solar company.

The solar panel market's rapid growth is likely to continue despite the economic downturn. As part of the \$700 billion bailout package for the financial industry, Congress extended investment tax credits for solar power another eight years. The credit enables individuals and companies to claim 30 percent of the cost of installation as a tax credit for both residential and commercial projects. And New Mexico's renewable energy portfolio standard requires that 20 percent of energy has to be renewable, and 20 percent of that has to be solar.

"We're excited about all the new initiatives," Baliga says. "There's a lot of momentum behind the idea of green energy in the U.S. and around the world."

**Hood for Thought** Food production and distribution places

Food production and distribution places a major burden on the environment, as the current system relies on transporting food very long distances (which uses up plenty of precious fossil fuels). Take garlic: almost



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insulate your windows to minimize heat loss. They help re th a rich color palette and fashion-forward design. OFFE all of the garlic that's sold in Albuquerque comes all the way from China, according to Michelle Franklin of La Montañita Co-op in Albuquerque.



The Food Shed Project at La Montañita is working to develop a more sustainable model that emphasizes the distribution of regional foods.

The program gives local farmers, dairies and other producers the opportunity to bring their products directly to the Food Shed's Cooperative Distribution Center's warehouse just off I-25 in Albuquerque. The Co-op then distributes the products to supermarkets, restaurants, and other sellers throughout the state.

"The food producers don't have to travel as far, so you reduce the carbon footprint," says Franklin, who is the Co-op's distribution center manager.

The project has helped build the business of Ed and Michael Lobaugh, who make artisan goat cheeses at their Old Windmill Dairy in Estancia.



Once a week, the Lobaughs bring their cheeses to the distribution center and get a check for the previous week's sales. The Food Shed distributes Old Windmill's cheeses from Taos to Las Cruces.

"Without them, we'd have to drive around and get individual contracts with each seller," says Ed. "They give us the opportunity to spend more time on the farm."

The Food Shed also assists food producers like Old Windmill Dairy with business plans, product labeling and marketing.