

## AWARDS AND RECOGNITIONS

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- Business Council of Alabama and Alabama Technology Network's Manufacturer of the Year (Medium Category), 2007
- Project on Global Working Families study by Harvard University, one of four U.S. companies selected out of 11 worldwide
- EPA Landfill Methane Outreach Program Project of the Year, 2006
- Alabama Associated General Contractors Build Alabama Award, 2006
- Governor's Conservation Achievement Award for Air Conservationist of the Year, 1999 and 2007

## LOCATIONS

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|                 |                  |                      |
|-----------------|------------------|----------------------|
| Albany, GA      | Dalton, GA       | Pelham, AL           |
| Albertville, AL | Dothan, AL       | Pensacola, FL        |
| Attalla, AL     | Florence, AL     | Savannah, GA         |
| Bluffton, SC    | Huntsville, AL   | St. Clair County, AL |
| Chattanooga, TN | Jacksonville, FL | Tallahassee, FL      |
| Cleveland, TN   | Mobile, AL       | Tuscaloosa, AL       |
| Columbus, GA    | Montgomery, AL   |                      |
| Coosada, AL     | Panama City, FL  |                      |



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# Brick:

The Environmentally Friendly  
Choice for America's Structures



Jenkins Brick Company

# THE NATURAL CHOICE FOR SUSTAINABLE DESIGN

Jenkins Brick Company's use of landfill gas at its Montgomery and Jordan plants produces a total annual greenhouse gas reduction equivalent to planting 45,600 acres of forests, removing the emissions of 31,900 vehicles or preventing the consumption of 387,450 barrels of oil.

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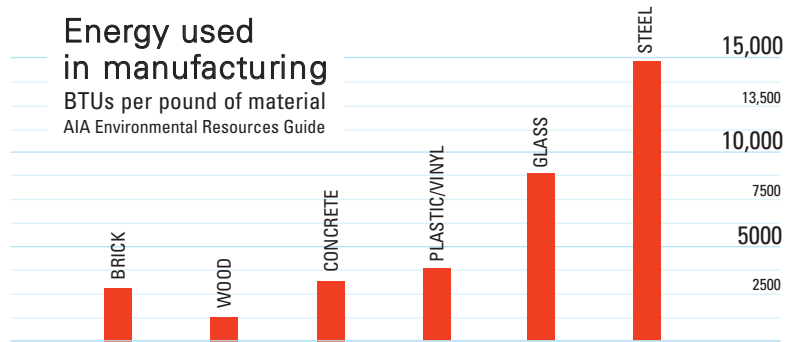
The concept of sustainability and “green” building practices has caused significant changes within the commercial and residential construction industry over the past decade.

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Sustainability, in essence, is the practice of planning the built environment in a manner that minimizes disruption to the natural environment, and promotes the health of the natural environment as well as the built environment. While green design and construction practices tend to focus on reduction of environmental impact, in the end, the consumer also benefits from sustainability through greater energy efficiency, lower costs over the life of a building, and a healthier interior environment.

When considering a sustainable design, brick's durability makes it an ideal option. Brick has existed as a popular building product for thousands of years, which demonstrates its superior performance in safety and durability. Due to its strength and fire-resistant properties, brick often remains standing, even under the harshest conditions. When compared to other building materials, brick has an unsurpassed life cycle. It will last for at least 100 years with little maintenance or repair.

According to the U.S. Department of Energy, commercial and residential building operations account for 39 percent of energy consumption in the United States. By using brick, one can improve the energy performance of a building, especially when used on the interior as well as the exterior. Brick's thermal properties can help contribute to an energy-efficient design strategy and are ideal for use in passive solar design elements. The process of making brick itself is energy-efficient. In fact, the embodied energy, or the amount of energy required in the entire brick-making process from mining to manufacturing to distribution, is approximately 4,000 BTUs per pound, or 14,000 BTUs per standard brick — less than concrete, glass, steel, and aluminum, according to the AIA Environmental Resources Guide.



Brick enhances the indoor environment as well as the out of doors. Brick is an inert natural product and contains no hazardous chemicals or volatile organic compounds. Unlike vinyl, wood or EIFS, brick emits no toxic fumes or smoke when heated to high temperatures and of course will not burn. And unlike vinyl, wood, EIFS, or cementitious fiber board, it does not require painting, further eliminating emission of chemicals and odors into the environment. By eliminating the need for paint and minimizing maintenance needs, brick promotes a healthy environment.

Through improved energy efficiency, use of recycled and alternative energy resources, durability, use of natural and recycled products, and other green qualities, brick is unrivaled as sustainable building material.

**USING LANDFILL GAS AS A SUBSTITUTE FOR NATURAL GAS PROVIDES JENKINS BRICK COMPANY WITH THE OPPORTUNITY TO CONTRIBUTE POSITIVELY TO THE ENVIRONMENT IN WHICH WE ALL LIVE WHILE OFFERING ECONOMIC BENEFITS TO THE PRODUCTION OF OUR PRODUCTS.**



**M**ethane is one of the most harmful of all greenhouse gases, with 23 times the heat storage capacity of carbon dioxide. Methane is reduced to carbon dioxide and water when it is burned and thereby its' greenhouse gas effect is greatly reduced from that of its raw form as produced in landfills. According to the United States Environmental Protection Agency, municipal solid waste landfills account for 34 percent of methane emissions in America. Because 50 percent of its volume is methane, landfill gas is the largest man-made source of greenhouse gas emissions. Build-up of methane in landfills and coal mines can be very dangerous.

In 1999, Jenkins Brick Company converted its Montgomery Plant from full reliance on natural gas to obtaining a majority of its kiln energy from landfill gas. Jenkins Brick is one of the first brick manufacturers currently using this technology in the United States. With the Montgomery Plant conversion, the company was able to help the City of Montgomery comply with the New Source Performance Standards of the Clean Air Act for landfill gas emissions. For its efforts, in 1999 and again in 2007 Jenkins Brick Company was awarded the Governor's Conservation Achievement Award for Air Conservationist of the Year.

Jenkins Brick Company's newest plant, the William M. Jordan, Jr. Plant in St. Clair County, Alabama, also utilizes landfill gas, obtained through its 6.5-mile-long pipeline from the Veolia Environmental Services Star Ridge Landfill. One of the largest plants of its kind in the United States, the Jordan Plant is the first major manufacturing operation in the nation built near a landfill for the purpose of using landfill gas as fuel. Landfill gas will account for 40 percent of the plant kiln's energy needs at first, and is projected to be its sole source in future years as the landfill grows.

By firing its kilns with landfill gas, the company substantially downgrades the impact of landfill gas on global warming, reduces America's demand for fossil fuels, and recycles energy. This avoids sending combustion products of alternative fossil fuel hydrocarbons to the atmosphere. According to the EPA, the use of landfill gas at the Jordan Plant alone will have estimated annual emissions reductions of 19,000 metric tons of carbon equivalents with annual greenhouse gas reductions equivalent to planting 19,600 acres of forest, removing the emissions of 13,700 vehicles, or preventing the use of 166,600 barrels of oil, and annual energy savings equivalent to heating 4,500 homes.

A proportional application of the EPA's Jordan Plant greenhouse gas reduction effect for our work with landfill gas at our Montgomery Plant results in annual greenhouse gas reductions equivalent to planting 26,000 acres of forest, removing the emission of 18,200 vehicles, or preventing the use of 220,850 barrels of oil.

**Using landfill gas at the Jordan and Montgomery plants results in a total annual greenhouse gas reduction equivalent to planting 45,600 acres of forest, removing the emission of 31,900 vehicles, or preventing the use of 387,450 barrels of oil.**

The EPA has been supportive of Jenkins Brick's utilization of landfill gas through the agency's Landfill Methane Outreach Program (LMOP), which has provided the company with valuable technical expertise. The government characterizes the Jordan Plant as a "green" project and bestowed Jenkins Brick with the EPA's LMOP Project of the Year Award for 2006. Also, the complexity of the plant's construction earned the project two Build Alabama Awards from the Alabama Associated General Contractors.



*At its Montgomery and Jordan Plants, Jenkins Brick uses a Dry Injection Fabric Filter (DIFF) scrubber to remove chemical compounds harmful to the environment as well as particulates from the air.*

"For centuries, bricks have been the building blocks of society, and now, by turning landfill waste into wealth, Jenkins Brick is also helping build a clean and plentiful energy supply for America," said EPA's top executive, Administrator Stephen L. Johnson, at the Jordan Plant opening.

Jenkins Brick is committed to helping protect the environment. The landfill gas capability has itself added \$4 million to the capital cost of the Jordan Plant. The company is proud to use this economical alternative energy source as a way to help improve the quality of our environment.

### **EMISSION CONTROL**

The EPA requires Jenkins Brick, as well as other brick manufacturers, to install Dry Lime Absorber (DLA) scrubbers on its plant stacks. These devices would have cost Jenkins Brick approximately \$800,000 each. Contrary to the practices of some other U.S. brick manufacturers, Jenkins Brick chose instead to purchase at approximately \$2.2 million each Dry Injection Fabric Filter (DIFF) scrubbers. DIFFs are substantially more effective at removing chemical compounds harmful to the environment as well as particulate matter than are the DLAs required by the EPA. The operating cost of DIFFs is measurably higher than DLAs as well. By taking this course of action Jenkins Brick has confidence that it is undertaking the most effective action available to protect our environment in which we all live.

## HOW USING BRICK CAN HELP

# protect the environment

The Leadership in Energy and Environmental Design (LEED™) for New Construction and Major Renovations (NC) is a system that provides guidelines for sustainable design and building. LEED-NC certified projects lessen impacts to land, water and the atmosphere, conserve energy, materials and resources, improve indoor air quality, and encourage innovative design. Specifying brick in a building's design can contribute towards an overall LEED strategy. Listed on the following pages are the specific LEED qualification opportunities with brick.



### Sustainable Sites

#### CREDIT 6: STORMWATER DESIGN

*(1-2 points)*

Using brick pavers in a permeable pavement system improves stormwater management by improving ground infiltration and reducing the amount of stormwater run-off.

#### CREDIT 7: HEAT ISLAND EFFECT

*(1-2 points)*

Use of light-colored brick pavers can help reduce the “heat island effect,” which is caused by dark surfaces that absorb more heat or lack of vegetation for shade and air cooling.

### Energy and Atmosphere

#### CREDIT 1: OPTIMIZE ENERGY PERFORMANCE

*(1 – 10 points)*

Brick has a high thermal mass, which gives it the ability to absorb and release thermal energy over an extended period. Exploiting brick's thermal properties can help to control energy needed for climate control by reducing peak energy loads, which can also allow for a smaller HVAC system. For instance, the heat absorbed by brick during the day can help warm the building's climate at night. Because of its thickness, brick requires less insulation than most other materials to achieve the same energy performance. By contributing to an energy-efficient strategy, brick can help optimize the energy performance of any project. Brick is also highly suited for use in passive solar designs.

## MATERIALS AND RESOURCES

### **CREDIT 2: CONSTRUCTION WASTE MANAGEMENT**

*(1 – 2 points)*

The purpose of this credit is to divert construction waste from landfills. Use of brick promotes good waste management, as only wooden pallets or, most often, plastic strapping is required for its transportation, both of which are recyclable. Even damaged pieces can be used onsite as cut pieces or core filler rather than being discarded, allowing for minimal product waste. Designing to utilize the modular nature of brick, onsite waste is even further reduced. Waste brick can also be crushed and recycled for use as roadway sub-base materials or as brick chips for landscaping. In LEED-NC v.2.2, one point is awarded for diverting 50 percent of demolition or construction waste from landfills, two points for diverting 75 percent.

### **CREDIT 3: MATERIALS REUSE**

*(1 – 2 points)*

Because of brick's durability, it is often reused for new construction. There are countless reuse options for salvaged brick. It can be reused for new buildings, barbecue grills, sidewalks, roads, or for landscaping and gardens. Sand-set pavers are especially suited for reuse in new pavements and other applications.

### **CREDIT 4: RECYCLED CONTENT**

*(1 – 2 points)*

Recycled industrial materials such as fly ash or slag and even sawdust can be incorporated into brick. Recycled metallic oxides can be used as colorants. Bricks from a project site can also be used as raw material for new bricks. Throughout the brick manufacturing process, there is practically no waste — virtually all of the mined material is used. Rejected bricks are simply reused as raw material.

### **CREDIT 5: REGIONAL MATERIALS**

*(1 – 2 points)*

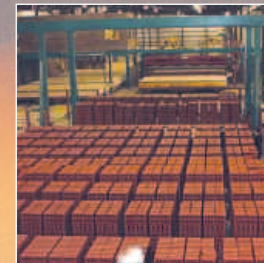
LEED-NC v. 2.2 guidelines award one point for projects where 10 percent of materials used on the project (based on cost) are extracted and manufactured within a 300-mile radius of the project site and another point for an additional 10 percent of the total value of materials. Only that portion (by weight) of a product that is made from regional materials is included in the calculation. Brick is a natural, inorganic product made of the most abundant materials on the planet — clay and shale. The material is always extracted from areas near Jenkins Brick plants, so there is no need to import raw materials. Because of this, nearly 100 percent (by weight) of Jenkins' brick meet the regional requirement. In fact, you can find Jenkins Brick manufacturing facilities within 500 miles of nearly any project in the Southeast United States.

**CREDIT 1: INNOVATION IN DESIGN**

*(1–4 points)*

Certain building-wide design strategies that do not fit under other LEED criteria are addressed in the “Innovation in Design” category. Brick can help execute a number of potential innovative approaches. For instance, brick’s durability can contribute to reduced building life-cycle environmental and economic costs. Because it does not need to be painted and resists mold growth, brick can contribute to improved indoor air quality. Brick performs well acoustically to prevent unwanted sound transmission. Unlike many other materials, brick is fireproof and does not emit toxic fumes when exposed to flames, which can help promote an overall fire-resistance strategy.

Life-cycle assessments of building materials can also contribute to an innovative design strategy. Because Jenkins Brick uses landfill methane gas, a waste energy source, to fire four of its six brick kilns, its products have a lower environmental impact associated with material production. In addition, designers have the option of specifying hollow brick (ASTM C-652), which consumes fewer raw materials. Hollow brick also requires less energy to produce and is lighter than standard brick, meaning that it requires less energy and has fewer emissions associated with transport.





## **ABOUT JENKINS BRICK**

In the late 1800s, Mike Jenkins, Sr., a railroad worker, suffered an injury that resulted in the loss of one of his legs. While recuperating, Jenkins designed a beehive, which he subsequently began to manufacture and sell throughout the South. As demand for his beehive grew, the need for a new factory arose. Unable to obtain the brick necessary to build the factory, the inventive Jenkins began to produce his own brick. The quality of his newest product stimulated market demand and prompted him to begin manufacturing brick as a business in addition to the beehives. In 1903, Jenkins built a second brick plant in Montgomery.

Five generations later, Jenkins Brick Company has grown to include distribution yards and retail showrooms in Alabama, Georgia, Florida, South Carolina, and Tennessee with production facilities in the Birmingham area, Montgomery, Ala. and Coosada, Ala.

The company's newest production facility is the \$56-million William M. Jordan Jr. Plant, named in honor of the company's long-time Chairman of the Board. Located on a 160-acre site in St. Clair County near the city of Birmingham, the Jordan Plant is one of the most technologically advanced brick manufacturing plants in the world. The main production building covers 210,000 square feet, and the grinding building covers 37,000 square feet.

"Alabama is experiencing unprecedented economic growth and new jobs are being created all across the state. I'm proud that an existing Alabama industry, Jenkins Brick, is also growing and creating new jobs and a better quality of life for our citizens," said Alabama Governor Bob Riley at the opening of the Jordan Plant.

## JENKINS BRICK COMPANY

### MISSION STATEMENT

The purpose of our company is to provide our customers with quality products and services at competitive prices, and delivered at a level of profitability that allows for a vigorous and healthy development of our organization and of our associates' careers.