

Take Control & Save[®]

Residential energy efficiency pilot program

Muscogee (Creek) Nation project - Morris, Oklahoma

The Muscogee (Creek) Nation

The Muscogee (Creek) Nation (MCN) is a tribal government located in Okmulgee, in east central Oklahoma. They are the third largest Indian Nation in Oklahoma with a tribal citizenship of 71,424 as of August 2011.

The housing division of the MCN was established to provide eligible Creek Citizens with safe, efficient and affordable housing. They provide programs in home ownership, mortgage assistance, rental properties and rehabilitation. As of September 2011, there were 2,745 homes, 68 elderly housing units and 325 rental apartment units within the Muscogee (Creek) Nation inventory.

The partnership

The Muscogee (Creek) Nation joined with East Central Electric Cooperative on a pilot project through the Take Control & Save program. The pilot consisted of building a new energy-efficient home for the tribe's housing division. The goal of the project was to build an energy-efficient home that would result in substantial energy and cost savings.

Muscogee Nation home statistics:

Construction type: Frame

Exterior: Wood

Home style: Single family

Age of home: New construction

Square footage: 1,900



The energy-efficient Muscogee Creek Nation home, complete.

History of existing homes

Homes built prior to this project included three types: homes that utilize electric heat, natural gas heat and propane heat. All homes included batted fiberglass insulation in the walls and attic, and a 13 SEER¹ air conditioner.

The construction begins

Construction on the new home began December 2008, and incorporated many energy-efficient techniques new to homes built within the Muscogee (Creek) Nation's housing division.

¹Seasonal Energy Efficiency Ratio



Construction workers install TechShield® roof decking to the energy-efficient home.

TechShield® roof decking is a product that helps block radiant heat in the roof from entering the attic, thus lowering cooling costs for the home.

The results are in!

The home was complete in February of 2009, and a family of five moved into the home shortly after. The home's energy use was compared to another newly constructed home without the energy-efficient features. Both homes had 1,900 square feet, and were in the same general location. The comparison home had only two occupants and used propane for heating the home, for the water heating and the cook stove. Energy cost comparisons below include both electricity and propane costs.

Cost comparison of energy-efficient to standard home

Standard home	Energy-efficient home	EE home savings
Average monthly energy cost: \$240	Average monthly energy cost: \$117	Average monthly savings: \$123
Annual energy cost: \$2,875	Annual energy cost: \$1,403	Annual savings: \$1,472

Even more savings to come!

Seeing the substantial savings from the pilot home, the Muscogee (Creek) Nation Green Team was created in 2009. The group is dedicated to ensuring all new homes and commercial buildings are constructed using energy-efficient building techniques. They applied for and received a \$2.2 million Federal Block Grant to fund four projects: a recycling center, building energy audits, the purchase of a geothermal well rig and geothermal conversions at the Tribal College and Engineering Building. Additionally, a new elderly housing addition will include many energy-efficient features.



You can Take Control & Save too!

To find out how you can take control of your energy use and start saving by implementing energy-efficient technologies in your home, contact your local electric cooperative or visit www.TakeControlAndSave.coop.

Energy-efficient technologies used

1. Ground-source heat pump heating and cooling system
2. Wet-blown cellulose insulation in the walls
3. Loose-blown cellulose insulation in the attic
4. Insulated slab
5. TechShield® roof decking (a product that helps block radiant heat in the roof from entering the attic)
6. Marathon water heater
7. California corners (a construction method that makes it easier for more insulation to be added to the home)
8. Compact fluorescent light (CFL) bulbs

Insulated slab



Wet-blown cellulose insulation



Installation of foundation insulation



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