



Buildings for the 21st Century

Buildings that are more energy-efficient, comfortable, and affordable... that's the goal of DOE's Office of Building Technology, State and Community Programs (BTS). To accelerate the development and wide application of energy efficiency measures, BTS:

- Conducts R&D on technologies and concepts for energy efficiency, working closely with the building industry and with manufacturers of materials, equipment, and appliances
- Promotes energy/money saving opportunities to both builders and buyers of homes and commercial buildings
- Works with State and local regulatory groups to improve building codes, appliance standards, and guidelines for efficient energy use
- Provides support and grants to States and communities for deployment of energy-efficient technologies and practices



PRAIRIE CROSSING HOMES

Building America houses that use half as much energy

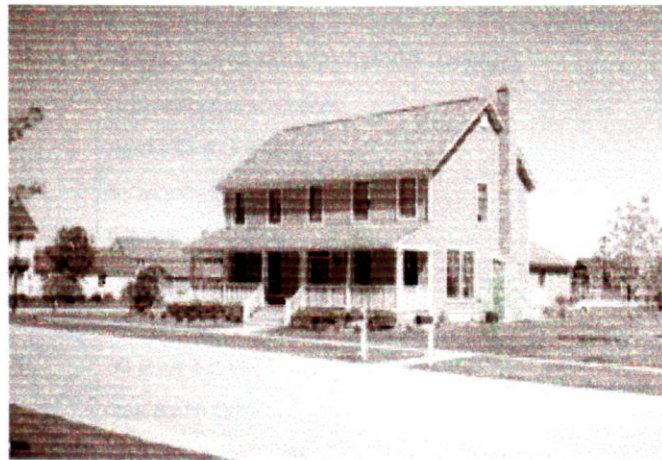
Although they use only half as much energy as other houses in the same area of northwest Chicago, the 315 homes being built here through the U.S. Department of Energy's Building America program cost little or no more to build. New building methods make the difference.

The Prairie Crossing homes in Grayslake, Illinois, cost approximately the same as competitive houses of the same size with the same basic features, yet use approximately 50 percent less energy to heat and cool. This clear incentive to buyers plagued by the rising cost of energy comes with a price tag comparable with that of a less efficient home—thanks to an innovative "whole house" concept.

The idea, developed by the Building America program, is to look at the whole picture, not just individual pieces of the jigsaw puzzle. Building America has brought together four teams drawn from all sectors of the housing industry: architects, engineers, real estate developers, financial backers, building materials suppliers,

and builders. The teams create designs that incorporate from the start the best combination of construction features to cut costs and energy use. Through the Building America program, DOE's Office of Building Technology, State and Community Programs (BTS) is helping to produce energy-efficient, environmentally sensitive, affordable, and adaptable houses on a community scale.

The systems engineering approaches used to develop the Prairie Crossing designs make maximum use of the interaction between the building envelope and its heating and cooling system. The major premises are that a house should be designed around its mechanical system, and that its shell should fit around the living space tightly enough to retain the heated or cooled air. As a result, the size and cost of the heating and cooling system are significantly decreased and its efficiency increased. The costs of a more efficient envelope are offset by those of the smaller system.



HOUSE CHARACTERISTICS

- 2-story with optional screened porch
- Average area: 2692 sq. ft.
- Bedrooms: 3
- Baths: 2½
- Living room, family room, dining room, eat-in kitchen