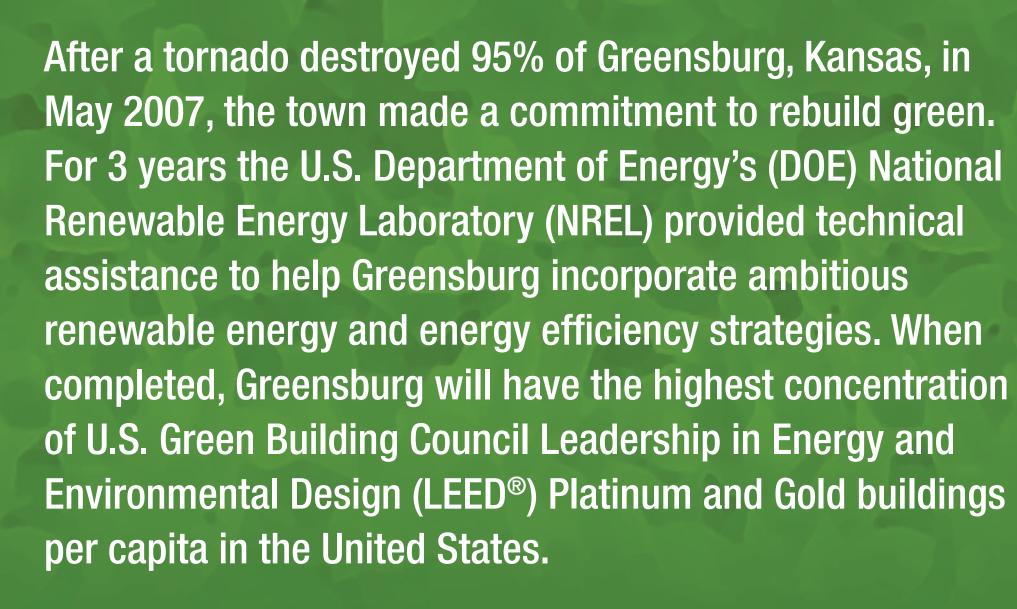
# Building GREEN in Greensburg

# DOE and NREL Technical Assistance





Courtesy of Federal Emergency Management Agenc

DOE/NREL provided technical assistance to Greensburg, Kansas, in the following areas.

### MASTER PLAN FOR REBUILDING GREEN

- Completed detailed studies on renewable energy sources, cost-effective energy options, and potential integrated energy solutions
- Worked with federal, state, and local agencies; city leaders and residents; energy consultants; and others to further the town's vision of becoming an affordable sustainable community.

#### **HIGH-PERFORMANCE BUILDINGS**

• Set aggressive energy efficiency goals for all new homes to use 30%–40% less energy than before the tornado, new city buildings to achieve LEED® Platinum, and other commercial and public buildings to be designed to LEED Platinum or Gold.

# **COMMUNITY WIND ENERGY**

- Conducted detailed computer modeling and site measurements and analysis of Greensburg's wind resource
- Worked with local utility partners, the Kansas Energy Office, and potential power providers to help Greensburg officials pursue construction on a 12.5-megawatt (MW) wind farm.

## **DISTRIBUTED RENEWABLE ENERGY**

- Recommended solar- and wind-friendly city ordinances
- Drafted safety and reliability ordinances, interconnection agreement, and net-metering policies to help local distributed system owners get the most value for electricity sent back to the grid

- Completed studies on potential local and regional biomass resources for providing heat to buildings or local industries
- Assisted with planning for 50-kilowatt (kW) wind turbines at the hospital and school; several small turbines at the BTI-Greensburg John Deere Dealership; solar photovoltaic (PV) systems on the Business Incubator; and light emitting diode (LED) streetlights in major portions of the community.

# **ALTERNATIVE TRANSPORTATION**

• Outlined opportunities for using electric and hybrid-electric vehicles, as well as alternative fuels and filling stations.

#### **EDUCATION AND OUTREACH**

- Delivered locally targeted presentations, fact sheets, training sessions, and feasibility studies; organized a special visit for K-12 students and residents by NREL's mobile RnE<sup>2</sup>EW education van
- Shared project details, successes, and lessons learned through a buildings database, numerous publications, Webinars, a Web site, and the media.

# **Projects completed with assistance from DOE/NREL include:**

- LEED® Platinum Buildings: BTI-Greensburg John Deere Dealership, SunChips® Business Incubator, and Prairie Pointe Townhomes (others certifications pending)
- Highly-efficient Commercial Buildings: Centera Bank, City Hall, Dillons Kwik Shop, Dwane Shank GM Dealership, Greensburg State Bank, Kiowa County Courthouse, Kiowa County Memorial Hospital, The People's Bank, and USD 422 Greensburg K-12 School
- Residential Buildings:

  Of the first 190 homes built after the tornado, about half were analyzed for expected energy savings (heat and electricity), and averaged 40% less energy use than code
- Wind Farm: Produces
   12.5 MW of energy, or enough to power every home, business, and municipal building in the town, as well as surrounding areas

DOE Web Site: www.buildings.energy.gov/greensburg | Greensburg Sustainable Building Database: http://greensburg.buildinggreen.com/

