

# TWIN BUTTES II

## Wind Farm



*"Wind is the most drought-resistant crop we have, and it's delivered valuable economic stability to a number of family farmers and ranchers in the area," said Val Emick, one of the Twin Buttes II landowners. "Working with an experienced developer and operator like Avangrid Renewables gives us a lot of confidence that Twin Buttes II will expand a successful partnership and help a lot of working families around here."*

### Project Overview

The Twin Buttes II Wind Farm consists of 36 Siemens Gamesa wind turbines located 23 miles south of Lamar, Colorado, near Avangrid Renewables' existing Twin Buttes Wind Farm. The 75 MW Twin Buttes II reached commercial operation in late 2017, and generates enough clean energy for our customer, Tri-State Generation and Transmission Association, Inc., to power the equivalent of approximately 30,000 average Colorado homes each year. The first phase of Twin Buttes is a 75 MW capacity, 50-turbine wind farm which reached commercial operations in 2007.



### Location

The wind farm is located in Prowers County, in southeast Colorado. Built on approximately 11,000 acres of farm fields, the permanent footprint of the entire project is less than 165 acres, meaning that local farmers and ranchers continue to graze cattle and harvest wheat alongside the region's drought-proof crop, the wind.

### Customer

Tri-State Generation and Transmission Association, Inc. (Tri-State)—a wholesale electric power supplier owned by 44 electric cooperatives and public power districts across Colorado, Nebraska, New Mexico and Wyoming – will purchase the entire output under a 25-year contract.

### Technology

**Turbines: 36; 2.0 MW Siemens Gamesa G114 models (6) and 2.1 MW Siemens Gamesa G114 models (30)**

- 114 meter rotor diameter = 376 ft.
- 55.5 meter blade = 182 ft.
- 10,207 sq. meter rotor swept area = 109,000 square ft.
- 80 meter tower = 262 ft.
- With a blade pointing straight up, total height is 444 ft. (For comparison, the total height of Twin Buttes I wind turbines is 389 ft.)
- 42 truckloads of concrete (417 cubic yards) in each turbine foundation

### Economic Benefits

- **\$5 million** – amount spent locally during construction
- **\$520,000** – approximate annual amount from Avangrid Renewables benefitting the community, consisting of:
  - \$270,000 – annual taxes
  - \$250,000 – annual lease payments to landowners
- **227** – number of workers at the peak of construction
- **5** – number of full-time workers to operate the wind farm

