

## Wind turbines help US Air Force meet renewable energy targets



AMEC can contribute to meeting the challenge of climate change by offering our customers the opportunity to meet their own environmental goals through switching to alternative energy sources.

## Wind turbines help US Air Force meet renewable energy targets



**AMEC can contribute to meeting the challenge of climate change both by managing our own environmental impact and offering our customers the opportunity to meet their own environmental goals through switching to alternative energy sources. Our specialist workforce of scientists and engineers harness the latest techniques and technologies to give clients access to real, workable solutions.**

We recently delivered the first wind farm at an Air Force base in the continental US. We installed two 660 kilowatt wind turbines and associated electrical equipment and cables at Warren Air Force Base in Wyoming to ensure the base complied with Federal regulations which mandate Government facilities to use renewable energy technologies, as well as to reduce energy consumption by 35 per cent by 2010.

We overcame a number of challenges to successfully deliver the project and ensure the environmental benefits could be achieved. Since 2005 was a boom period for wind turbine production, to ensure the turbines were delivered to schedule we included penalties for equipment delays in our contracts and maintained regular communications with the manufacturers to track delivery.

The original design provided to us was not achievable within the budget available, so we rapidly revised it to comprise two turbines rather than the single unit specified, and streamlined the construction requirements to facilitate faster and more cost effective delivery. This achieved all original technical performance specifications, while also meeting the project budget limitations.

It was critical to minimise noise disturbance to base residents and the impact on airfield operations. We identified locations that minimised both the noise and potential interference with air traffic control radar systems, and optimised the height of the tower to eliminate interference with the radar systems.

Successful delivery on this pioneering project was essential – in the event, we handed the completed facility over to the client on budget and two months ahead of schedule. The turbines will produce enough clean energy to power 522 households on the base, offsetting the production of nearly 5,000 tons per year of carbon dioxide emissions (in comparison to the same amount of energy produced by a coal-fired power station) and saving the Air Force more than US\$3 million in energy costs over the next 20 years.

Based on the efficiency of AMEC's installation and successful turbine operation to date, the base's energy managers plan to build additional turbines as funding becomes available, further enhancing the environmental benefits and cost savings generated.

### Project data

**Client:** US Air Force  
**Location:** Wyoming, US  
**Date:** 2004 – 2006  
**Value:** US\$2.5 million  
**Scope:** Design, procure, construct