

Featured Project

Biochar Global Solutions—Activated Carbon and Cogeneration Facility

White City, Oregon



ArcSine Engineering is a member of the Owner's design-build team for the construction of a state-of-the-art facility which will convert forest biomass into 10,900 tons of activated carbon per year. The plant, which originally was slated for construction at an existing facility, will consume approximately 50,000 tons per year of biomass from small-diameter douglas fir timber and forest residue produced in the upper Rogue River Valley, in Oregon. Waste gases from the activated carbon process will be used to fuel a boiler producing steam for heating, and to supply an onsite 17.5-megawatt cogeneration facility. Electricity produced will be used for onsite power, with surplus sold to the local electric utility.

**Electrical
Mechanical
Programming
Lighting
Power Distribution
Construction Services
Instrumentation/Controls**

ArcSine is providing the following electrical, mechanical, and instrumentation/control system (I&C) engineering services:

- Utility coordination with Pacific Power
- Detailed field investigations of the existing facility
- Development of site demolition plans
- Determination of onsite equipment suitable for reuse
- Identify/coordinate package system control interfaces
- Prepare process and instrumentation diagrams
- Develop process control strategies
- Develop package systems I&C specifications
- Prepare control diagrams
- Develop plant-wide SCADA architecture
- Establish communications systems
- Design fire and lightning protection systems
- Design plant and office HVAC systems
- Evaluate existing plumbing systems; design emergency water supply and fire protection, water pumping and storage system
- Evaluate existing sewer system; coordinate sewage disposal with the local sewage collection utility
- Evaluate existing electrical system; prepare load lists/single-line diagram
- Develop electrical specifications; package systems efficiency requirements
- Perform load-, short-circuit-, and voltage-drop calculations
- Site and building lighting design

