WESTBIOFUELS

Bioenergy Systems for Agriculture Sector

October 2023

Matthew D. Summers

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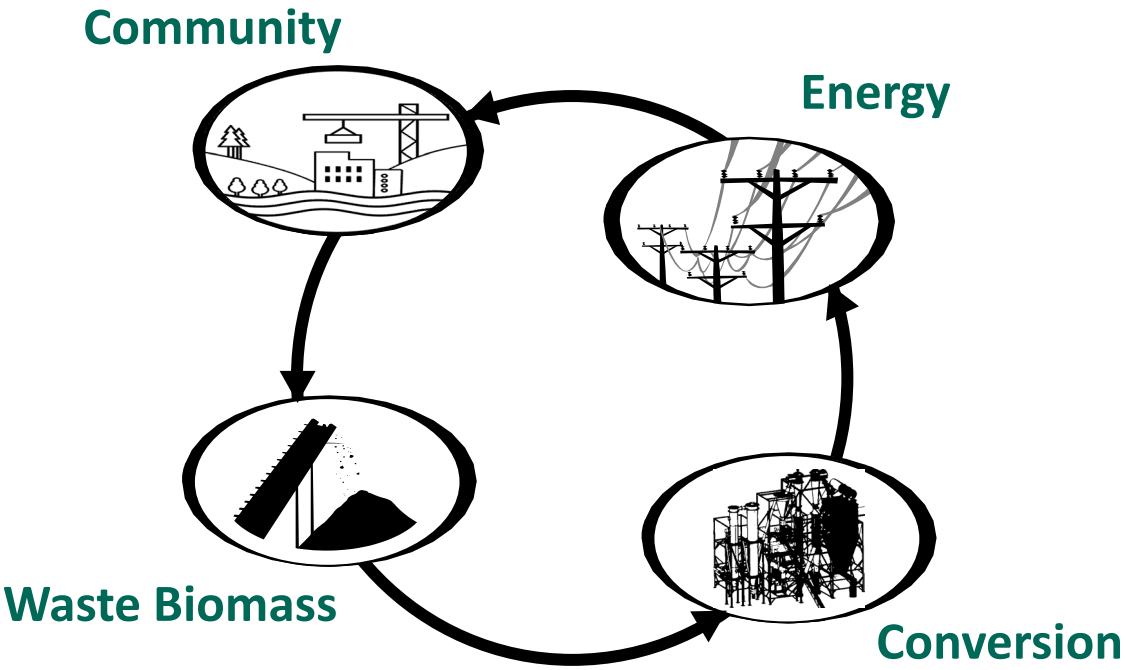
West Biofuels Mission

To reinvent bioenergy production in ways that help us become energy independent, lower our carbon footprint, create local green jobs and foster economic growth.



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Company Purpose

What – Develop and supply bio-energy, bio-fuel and bio-products technology for communities: particularly agriculture, forest and municipal sectors

Why – Biomass is continuously generated from agriculture, forest and urban land management. Utilization of this surplus biomass creates revenue, jobs, and reduces carbon footprint

Where – Focus is on California. Maintains facilities including Engineering R&D Center and Work shop in Woodland, CA

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The Company: Who Are We

- West Biofuels, LLC was formed in 2007
- Operations managed by Dr. Matthew Summers
- Intellectual property for advanced energy technologies
- Strategic technical partnerships with Albemarle, Solagen, CAW, Turboden, NREL, Best Research, and many others
- Ongoing R&D partnerships with University of California and Vienna University of Technology
- Pilot demonstration facility in Woodland, California
- Licensed Engineer and General Engineering Contractor
- EPC for commercial bioenergy projects

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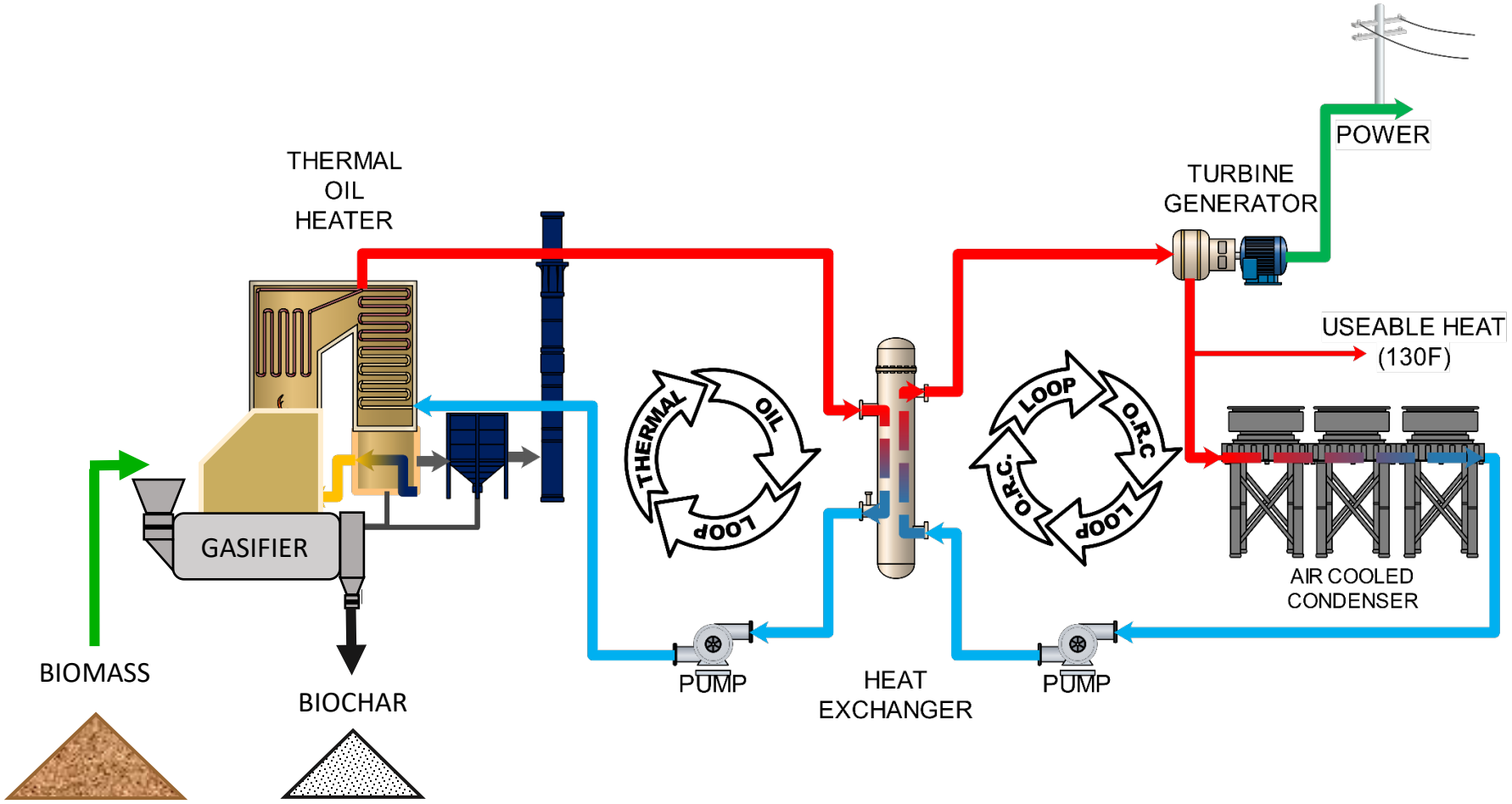
Success Factors: Robust Technology



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Technology Advantages

- Trouble-free and automated systems for this scale
- Remote monitoring and maintenance by suppliers
- Biochar production as co-product for added value
- Systems are proven technology at this 3MW scale
- Operating histories of over 300 systems worldwide
- Ability to increase biomass consumption if needed
- Additional waste heat can be recovered for drying or other combined heat and power projects

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Typical Project Description

- **Project Type**: 3 MW - PG&E BioMAT Contract
- **Technology**: Gasifier – Thermal Oil Heater –ORC Turbine Generator
- **Primary Product**: Renewable Electricity
- **Co-Product**: Biochar
- **Project Location**: Central Valley, CA
- **Feedstock**: Biomass products of agricultural production – shells, pits, prunings, tree removals
- **Quantity Needed:** Approximately 30,000 TPY

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Success Factors: Feedstock Management and Control

Infrastructure for delivery of feedstock a requirement for projects

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Success Factors: Preliminary Engineering Established

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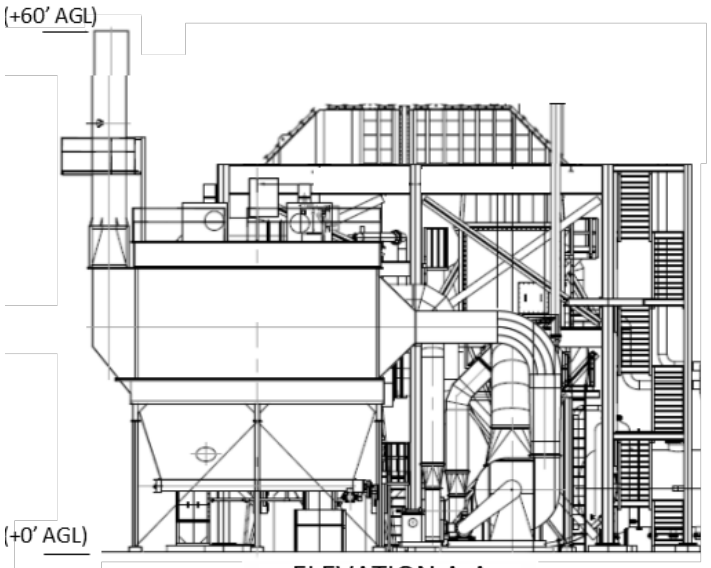
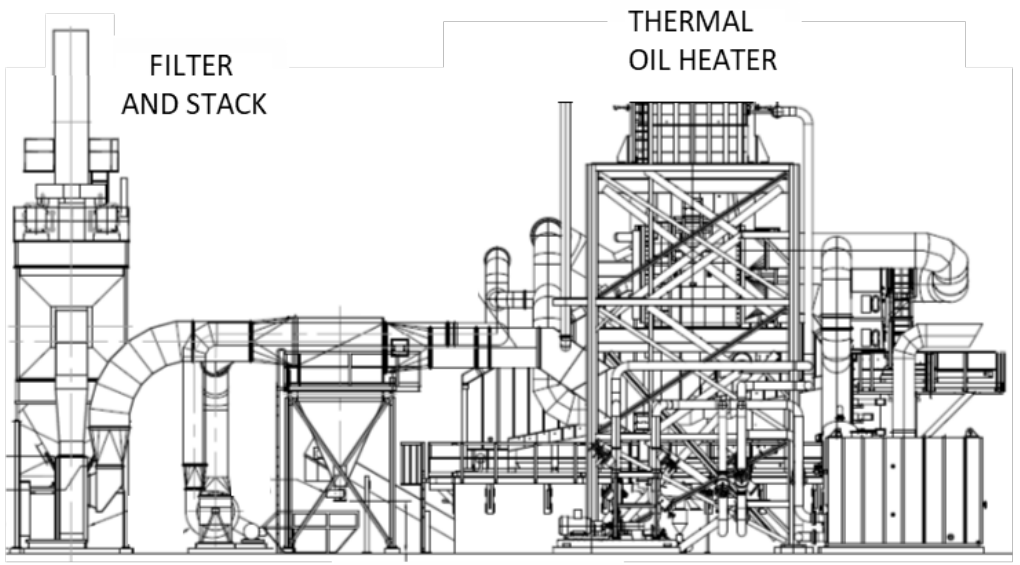
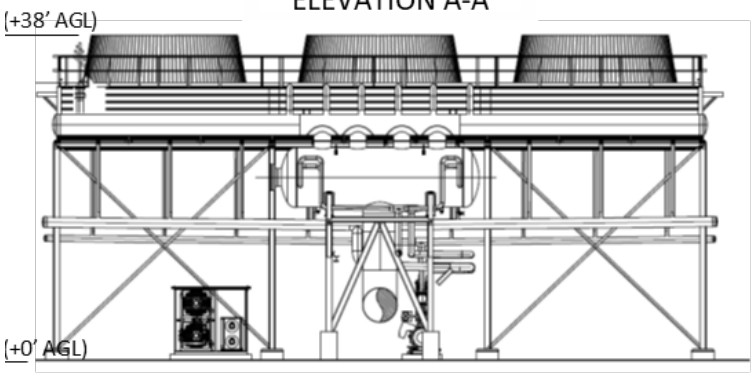
Success Factors: Preliminary Engineering Established



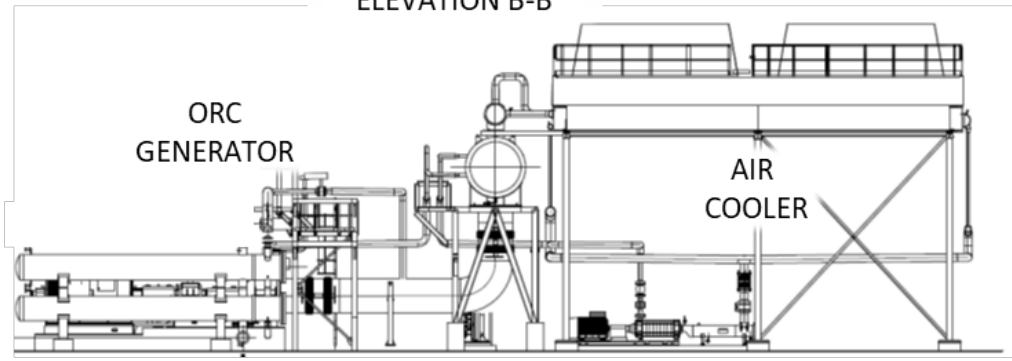
ELEVATION A-A



ELEVATION B-B



SECTION C-C



SECTION D-D

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Success Factors: Experience with Engineering, Procurement and Construction of BioMAT Projects

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Success Factors: The Whole Package

- Reliable revenue stream with 20-yr contract
- Feedstock security through direct control
- Experienced team and proven technology
- Third-party engineering reviews completed
- Motivated and involved project ownership
- Federal and state grant opportunities & ITC
- Community development minded funding partners – River City Bank, I-Bank, Community Futures
- Local and state level community support

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