BIOMASS CONVERSION

Clean Energy Consulting Inc.
Bioenergy & Biofuels

Many technologies for converting biomass to various types of bioenergy are well proven. However, when feedstock costs rise and higher value energy products are desired as outputs, technical and business challenges can arise. Clean Energy Consulting is the right strategic partner to help you overcome these challenges and accomplish a project that provides significant financial and environmental benefits.

Electricity generated from biomass is an excellent complement to intermittent clean power from hydroelectric, solar, or wind. Small scale, distributed generation can stabilize the grid, address demand constraints on infrastructure, and reduce transportation requirements by locating facilities close to the feedstock source. Overall efficiencies can exceed 80% when biomass is used in a combined heat and power (CHP) configuration presenting exceptional opportunities for remote community energy systems, enabling complementary enterprises such as greenhouses and drying systems. Additional benefits include reduction of waste streams, stabilization of smaller communities through skilled labour opportunities, and enhancement of the forest land base.

These projects require solid feedstock supply, bankable offtake agreements, confidence in plant performance, appropriate technology selection, project planning and demonstrated ability to construct and operate the facility. Our team has a proven track record of delivering outstanding results on demanding projects. Contact us to discuss your opportunity and let us assist with designing an innovative solution tailored for your specific requirements.
Project Profiles

Brownfield Bioenergy from Forest Residuals

A decommissioned paper mill was converted into a 36 MW bioenergy generating station. This showcases the benefits of repurposing industrial facilities by integrating the old and new to capture the value of existing infrastructure. The project was successfully developed for non-recourse debt financing with CEC as a strategic partner to lead the project with responsibility for the project outcomes and plant performance. CEC successfully developed and executed the project plan that addressed the technical, cost, and schedule risks associated with this complicated and rewarding project.

ORC Power Generation

Standalone 13 MW biomass plants fired by sawmill and forest residuals utilize Organic Rankine Cycle (ORC) technology to achieve efficient conversion to electricity. CEC provided a range of project and technical services throughout the project including project definition, utility interconnection, electrical and controls design, construction management and start-up support.

Biomass to Alternative Fuels

CEC provides technology evaluation, business plan development, front-end engineering and design as well as market, feedstock and operability assessments for biofuel projects. We are currently providing project development support to a number of clients for biofuel projects in Western Canada.
Corporate Profile

Clean Energy Consulting (CEC) is passionate about developing and implementing practical projects that will have a meaningful, positive impact on the tremendous challenges facing our global community. From sustainable power generation and industrial efficiencies to extracting value from waste, our team of consulting professionals can help transform your project from concept to reality. We provide comprehensive project and multi-discipline engineering services to a wide range of industries and have a track record of delivering outstanding results on demanding projects.

We understand the importance of exploring options when developing a project to select the optimal configuration for further definition. The right balance of technical, business, and economic factors needs to be attained before the project can proceed. To accomplish this our development team is able to evaluate alternate technology configurations and implementation methods rather than defaulting to what has been done before.

CEC believes the likelihood for success on a project can be significantly influenced during the early stages before decisions are locked in. With a full understanding of financing, regulatory, consultant, and contractor expectations, CEC ensures that the elements necessary for success are embedded from the start so changes at later stages are minimized.

The CEC team is motivated by challenges and look for innovative ways to achieve outstanding results. Combined with integrity, humility, and a strong sense of ownership, our people are committed to success with all facets of a project – design optimization, efficient construction, and exceptional plant performance. We are dedicated to continuous improvement by listening and applying the lessons learned on previous projects.

Our focus on sustainability and renewable energy allows us to maintain intimate relationships with key stakeholders in this small and passionate network of professionals. We can assist with advising and facilitating regulatory shifts and utility negotiations, and accessing specialized services for key aspects of your project.

Clean Energy Consulting is the right strategic partner to transform your vision from concept to reality!