



# TRANSMISSION & DISTRIBUTION LINE ENGINEERING



**Clean Energy**  
CONSULTING INC.



# Transmission & Distribution Line Engineering Services

Clean Energy Consulting provides a full range of transmission and distribution line engineering and project services to public and private sector clients in Canada and internationally. Our team is experienced with green field design, line relocation, circuit upgrading, asset management, routing, and permitting for voltages from 25 kV through to 500 kV. We are equally comfortable in the role of primary engineering consultant, Owner's Engineer, or stakeholder technical advisor.

CEC is adept at taking projects from concept through to completion and have a team of professionals and technicians able to effectively navigate regulatory requirements, utilize the latest design tools, manage materials and contractors, and assure quality throughout design and construction.

Contractors appreciate the clean, comprehensive design packages our team produces and this translates into cost optimized installation for the owner with minimal surprises. We are able to respond quickly and seamlessly to unforeseen field conditions and constructability suggestions to keep the project on schedule and budget.



## Design Services

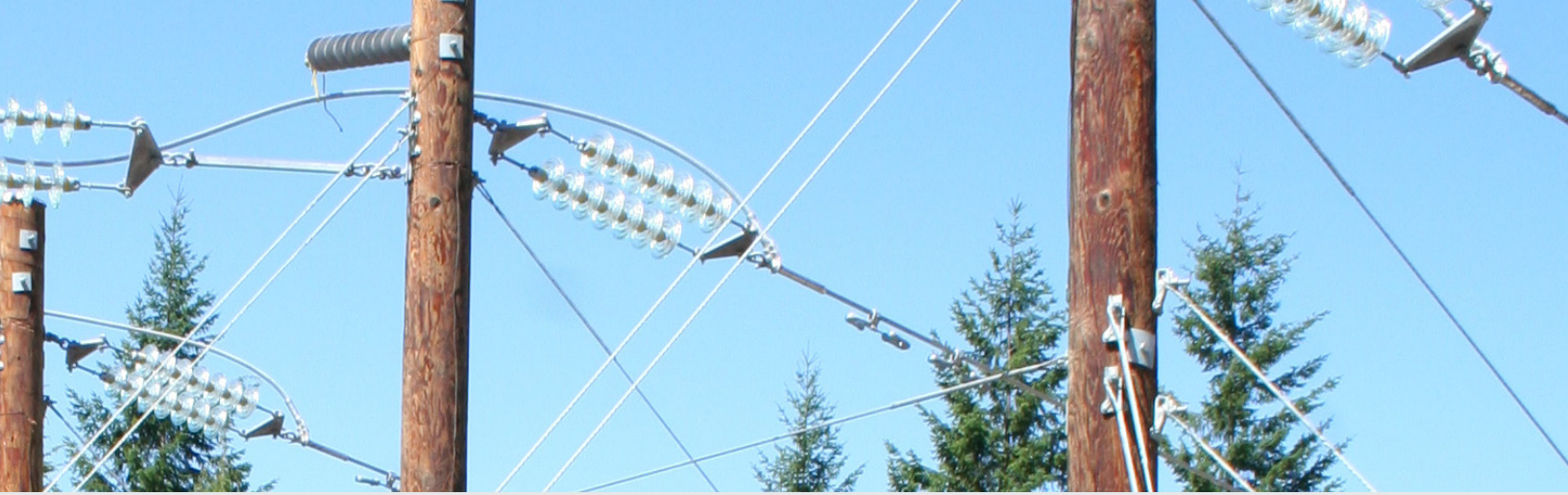
- Design Criteria
- Electrical Design
- Structural Design
- Route Planning and Permitting
- Overhead Line Design
- Circuit Upgrading
- Circuit Rehabilitation
- Drafting
- Telecommunications Line Design

## Project Services

- Estimating
- Construction Specifications
- Scheduling and Planning
- Regulatory Consultation
- Procurement
- Circuit Inspection and Field Assessment
- Insurance Advise ment

## Project Management

- Project Planning
- Construction Planning
- Interface Management
- Cost Control
- QA/QC Management
- Asset Management



## Project Profiles

### Concept to Completion 138 kV Transmission Line

A 21 km, 138 kV transmission line was developed by CEC, from concept to completion. CEC worked with the clients regulatory team to select and evaluate line routing and provide information to acquire permits. Transmission line services included; circuit location and alignment, requisition of Lidar data, transmission line design in PLS-CADD, structure design/detailing, construction tender development, material procurement and tracking, QA/QC, and site support.



### Circuit Upgrading 69 kV to 138 kV

The existing 69 kV circuits were modeled in PLS-CADD and updated to 138 kV. CEC worked closely with the client and other line owners to navigate the increased height of the poles and the conductors over many highway/road crossings and under existing circuits, maintaining the required clearances. Design criteria for this project conformed to the Alberta Electrical Utility code and client specifications.



### Line Design and Construction Support 69 kV Transmission

A 12.5 km, 69 kV transmission line was required to connect an independent power producer to the BC Hydro grid. CEC provided the overall line design, prepared tender documents and assisted the client in evaluating line contractors. The transmission line services included; optimised routing, transmission line design in PLS-CADD, BC Hydro crossing designs, structure design/detailing, material specifications, QA/QC, and site support.





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## Corporate Profile

Clean Energy Consulting 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.

Clean Energy Consulting 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, 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!

## Ask us about

- Run of River and Small Hydro
- Project Development
- Biomass Conversion
- Consulting Engineering Services
- Heat Recovery
- Process Optimization

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