

NB Power Triplex Project

Acknowledgements

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OPPORTUNITY

NB Power has identified a need for innovation in power technologies due to their desire to provide more efficient power distribution. The two primary drawbacks with long power lines are the large costs associated with vegetation management and line losses.

DISTRIBUTION LINES

stretch across the province of New Brunswick distances equivalent to a **roundtrip** from **Fredericton** to **Tokyo**.

21,000 KM



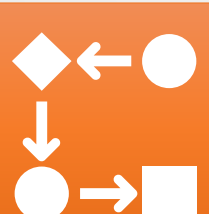
POWER LOSS

reduction provides cost **savings** that can be put back into making cleaner and more sustainable energy contributing to a **greener province**.

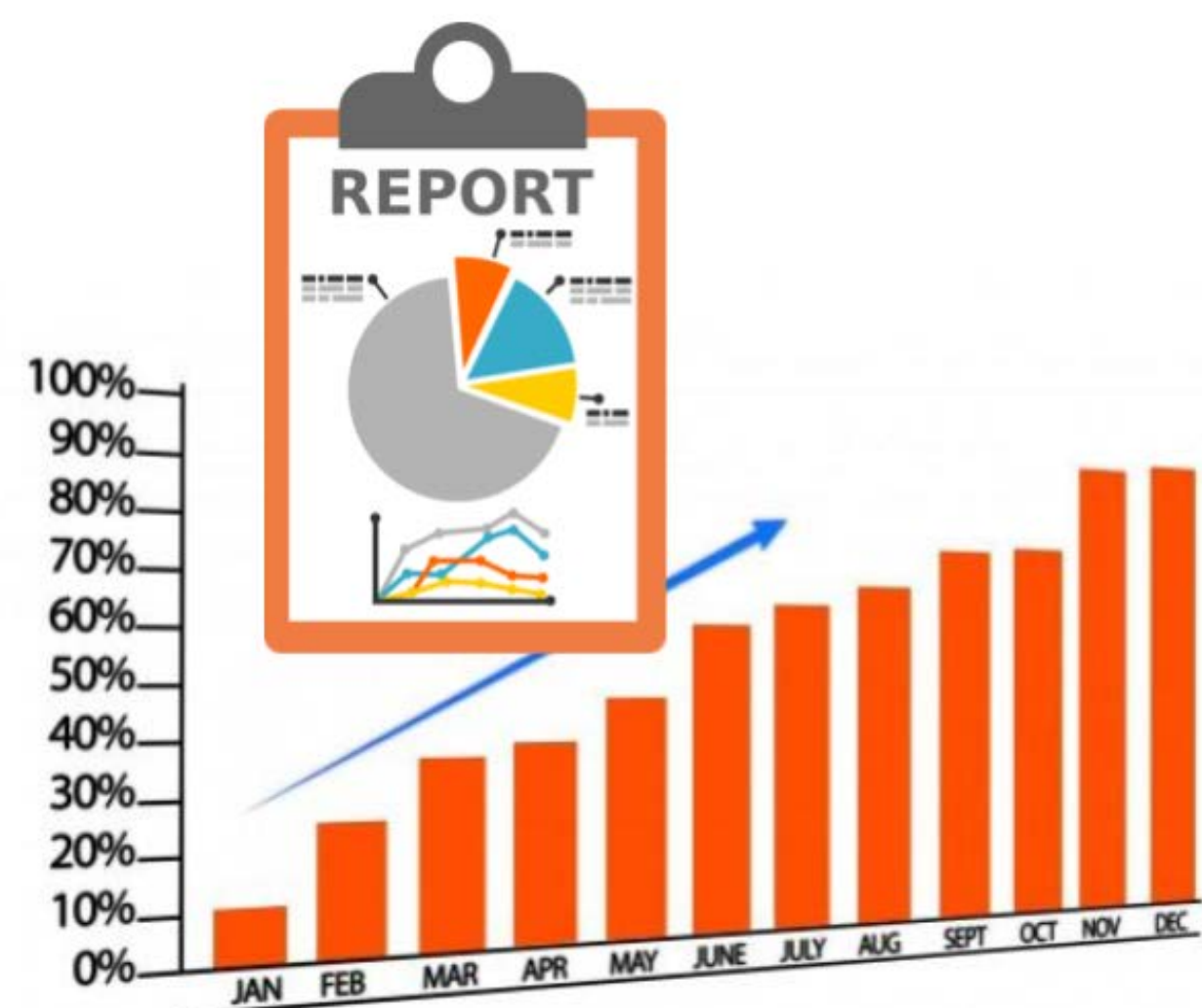


SOLUTION

To mitigate this issue, NB Power has proposed generating power closer to the home through renewable energy sources. To better understand the feasibility of the solution, our team has created the Triplex Current Measurement System to measure the load on the pole top distribution transformer.



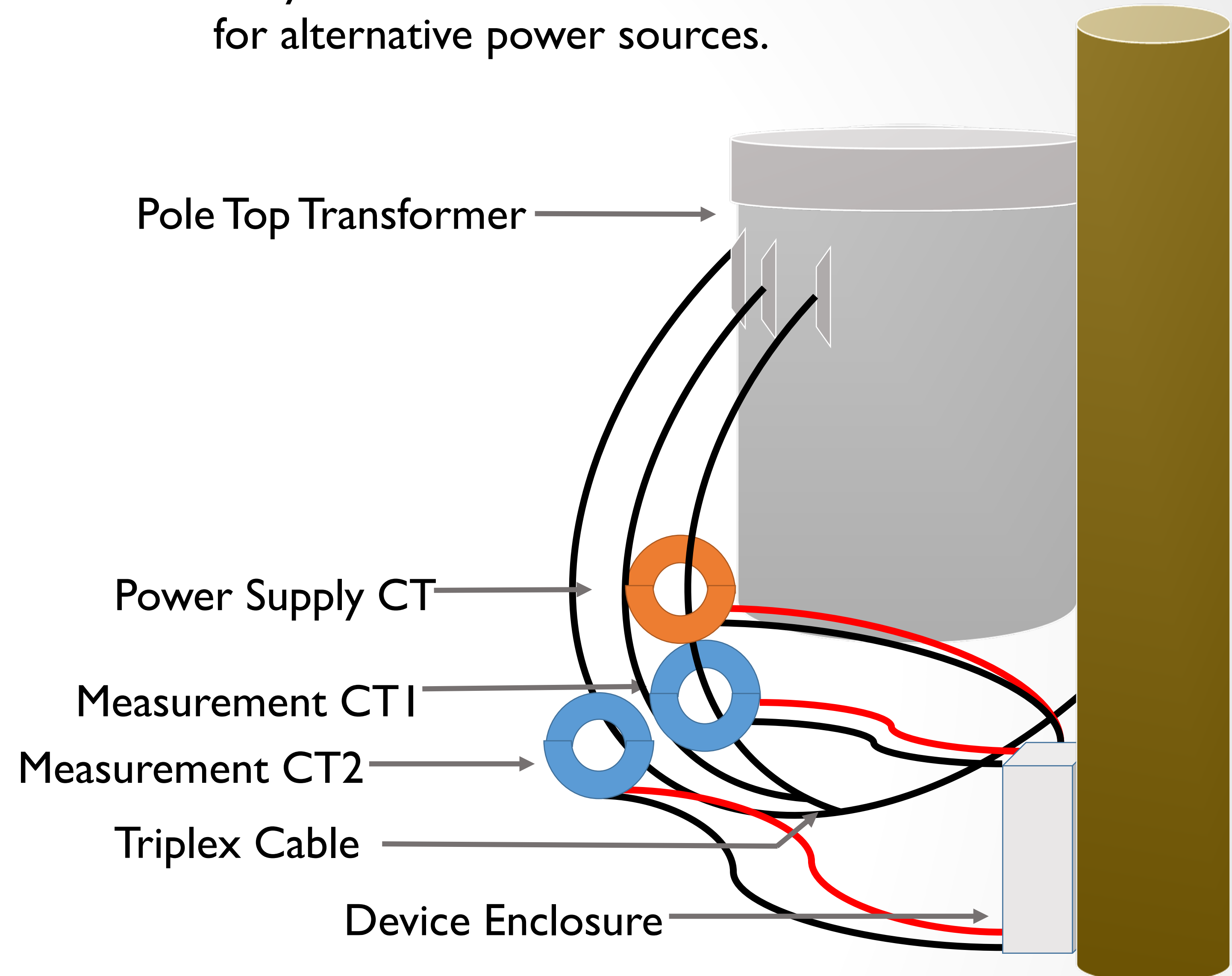
SYSTEM OVERVIEW



DESIGN



The Triplex Current Measurement System measures the current on the secondary side of the distribution transformer every 15 seconds to develop a detailed loading pattern. This data is processed and then sent to a cloud database where NB Power can access and analyze the data to determine if the location is viable for alternative power sources.



FEATURES



- **Quick & Simple** Installation
- **4G LTE** Cellular Communication
- **Inductive Coupled** Power Supply
- **Super Capacitor** Energy Storage
- **.CSV Cloud Storage** Customizable, Long-Term, Automated
- **Expandable Fleet** Architecture



Measurement System

Data Analysis

Potential Renewables



Énergie NB Power

the power of possibility
débordant d'énergie



Engineering
Design Symposium