



How remote communities can eliminate fuel costs and harmful emissions associated with diesel-based electricity

Case Example

A First Nation Reserve community in Ontario spends over \$1 million dollars annually on diesel fuel for its electricity microgrid. The output is unreliable as power goes out at least once every week, while the emissions pose serious health risk, with WHO recently classifying **diesel fumes** as a carcinogen, “**a major cancer risk**”.

Solution

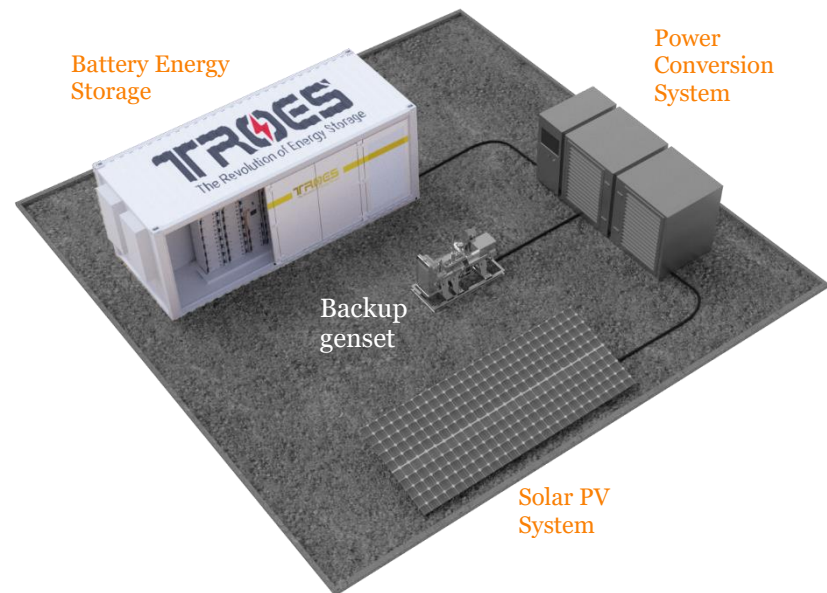
TROES' Battery Energy Storage allows integration of solar PV system to the existing microgrid to reduce diesel consumption tremendously. Such integration would allow the diesel generators to operate at optimum frequencies, reducing operation hours & curbing the emissions.

Benefits

A modeling was done based on existing load profile where a 1 MW solar PV system and a 4.5 MWh BESS was integrated to the community's 500 kW diesel generator. The **annual fuel cost savings** from this installation was over half a million dollars. This configuration also allows the generators to operate at

their optimal frequency, thus reducing annual O&M costs along with the noise and emission levels.

Business case details available upon request.



Environmental Impact

The solar PV and BESS integrated system will contribute to **reduction of 1224 tons** of Greenhouse Gas (GHG) **emission** annually. This will be equivalent to taking 266 passenger vehicles off the road!