Alectra Green Energy & Technology (GRE&T) Centre

GridExchange

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GRE&T Centre

Enabling exchange of clean energy for monetary benefits and rewards

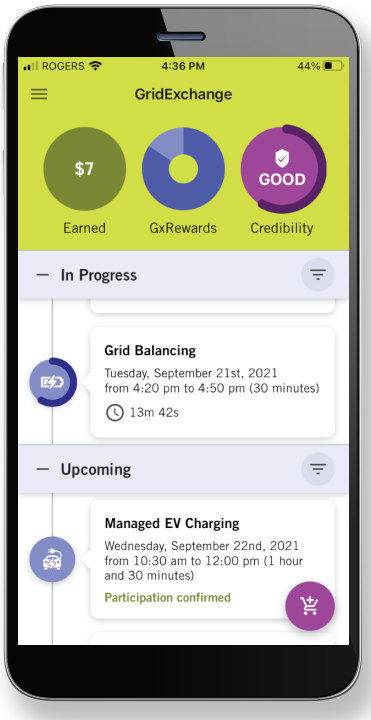
Consumers are a key driving force shaping the future of energy industry. Their access to constantly evolving digital and mobile technology, coupled with a heightened sense of responsibility to address climate change, is changing the way energy is being generated, delivered, bought, and sold.

What if these consumers could be empowered to share the surplus energy they generate at their homes? What if they could be rewarded for environmentally friendly behaviours like deferring the charge of their electric vehicle (EV) to off-peak hours? What if energy transactions between consumers and the utility could be as seamless and easy as ‘online shopping’?

GridExchange is a blockchain-based software platform that enables exchange of energy between a utility and their customers using a secure, transparent and user-friendly interface.

The Challenge

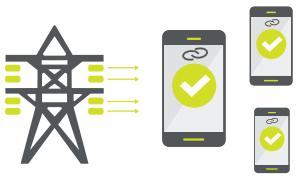
Unlike passive energy consumers of the past, the new energy consumers are increasingly adopting distributed energy resources (DERs) - such as rooftop solar panels, battery storage and even EVs. These resources not only enable the consumers to produce enough energy for their own homes, they also help optimize energy consumption and have the ability to transform the consumers into prosumers (someone who both produces and consumes energy). This shift has the potential to increase the amount of clean energy produced in our communities thereby reducing greenhouse gas (GHG) emissions, lowering energy bills, and adding resiliency to the grid.



The Solution

Available as a web and mobile app, GridExchange is a blockchain-based platform that enables energy exchanges between a utility and their customers. It offers utilities an ability to engage the available customer DERs that can respond to power grid needs through publishing requests for customers to participate in managing peak load. Customers can review and opt-in to participate in these requests. They can choose to offer energy from their solar panels and battery storage, or slow down their EV charge rate in exchange for financial benefits and loyalty points called “Gx Rewards”. The rewards can be redeemed at participating local businesses.

How GridExchange works



Request: The utility anticipating high electricity demand schedules a request asking customers to contribute clean energy to the grid

Contribute: GridExchange participants respond confirming availability, shortlisted participants are notified and contribute to reducing the peak demand

Compensate: Fast and secure processes verify customer participation and unlock payment and GxReward points

Benefits of GridExchange

Gives customers energy choices, they benefit from existing DERs

Incentivizes the use of clean energy, reducing GHG emissions

Enables improved grid planning and balancing decisions, reducing overall energy system costs

Motivates regulators to propose standards and policies that shape a clean energy future

Engages communities in a journey that enables climate action leading to a greener future

In Collaboration With

Natural Resources Canada | Ressources naturelles Canada | SUNVERGE | Savage Data Systems | flo

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