Energy efficiency

Energy savings

Although we have already taken advantage of the biggest savings opportunities, our Real Estate, Media, IT, Network, Mobility and Fleet teams continue to look for ways to make Bell even more energy efficient. Here is how we achieved electricity and fuel savings last year.

ELECTRICITY SAVINGS

	2018 ELECTRICITY SAVINGS INITIATIVES	COST SAVINGS ($ 000)	ELECTRICITY SAVINGS (GWH)
Buildings	• Modify free cooling systems to reduce the need for mechanical cooling • Implement conversions to LED lighting • Re-commission HVAC & chiller equipment • Obtain provincial utility subsidies • Improve management of energy demands resulting in reduced electricity fees • De-commission sites and servers	3,079	10.70
Networks	• De-power DMS switch • Upgrade solar system • Modernize rectifiers • Decommission or de-power legacy equipment	1,027	8.33
Data centres & IT	• Consolidate, optimize and virtualize servers	501	5.35
Bell Mobility Network	• Improve efficiencies in free cooled shelter programs • Implement energy saving software features	652	4.21
TOTAL SAVINGS		**5,259**	**28.59**

FUEL SAVINGS

	2018 FUEL SAVINGS INITIATIVES	COST SAVINGS ($ 000)	FUEL SAVINGS (LITRES)
Fleet	• Replace older vehicles with new, more fuel-efficient models	618	612,000
	• Use hybrid vehicles, which are much more fuel-efficient than equivalent gas only vehicles	10	10,000
TOTAL SAVINGS		**628**	**622,000**

Renewable energy

Nungesser wind and solar power augment trial

The wind and solar power technology trial installed in Nungesser Lake in 2016 was considered a success. It performed without interruption for the full twelve-month trial period during 2017. Based on the remote access via satellite, 57% of the power requirements for the site was provided via renewable energy.

In 2018, we have kicked off three projects in Northern Ontario designed around a Windular Research and Technologies solution. Both Wabikon and Badesdawa will receive wind turbines and solar arrays integrated with new generators under one common control platform. We are also going back to Nungesser to add new generators and controllers. We are expecting that at least 75% of the power requirements for all locations will provided via renewable energy. These solutions are being prebuilt as “total energy shelters” and being shipped onsite to minimize remote installation efforts.

Zoar solar power project in Labrador

In late 2017, Bell's team successfully completed the first solar and DC power system upgrade in a fly-in only radio site at Zoar, Labrador. Zoar is not far from Nain, which is the northernmost permanent settlement in Newfoundland and Labrador, located about 370 kilometres by air from Happy Valley-Goose Bay. As a result, the existing end of life 4.8 kW solar array was replaced with a new 12.6 kW smart tracking solar system. The onsite DC power plant rectifier capacity doubled from 12 kW to 24 kW. Generator run time significantly reduced by 87%. In 2018, we have upgraded the solar and DC power systems at the Merrifield Mountain site, and we will continue performing similar upgrades in 2019 at two other Bell remote microwave transport sites in Labrador (Double Mer and Mulligan).

This solar modernization program will significantly improve network reliability, reduce generator run time, and cut energy costs and greenhouse gas emissions.