



NRCan Case Study

The Challenge:

Natural Resources Canada (NRCan) is “Committed to improving the quality of life of Canadians by ensuring the country’s abundant natural resources are developed sustainably, competitively and inclusively.” In November 2016, Canada joined seven other nations (China, France, Japan, Norway, Sweden, the UK and the USA) by signing on to the Government Fleet Declaration under the auspices of the Clean Energy Ministerial – Electric Vehicle Initiative, committing to deploy greater numbers of EVs in government fleets.

As part of [Canada's Greening Government Strategy](#) to reduce emissions from government fleets, the team at NRCan was tasked with identifying which government fleet vehicles were best suited for switching to an electric vehicle (EV).

The Solution:

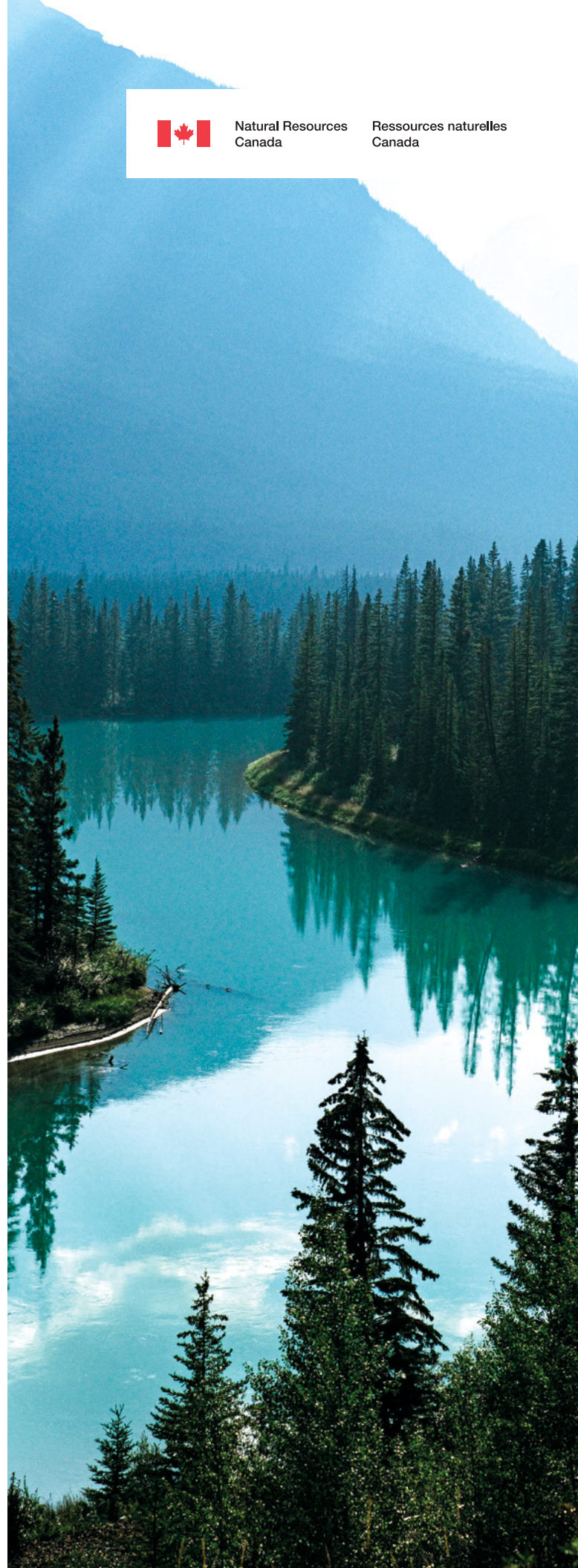
NRCAN needed to complete a thorough examination of all government fleet vehicles in order to understand the variables associated with switching to EVs. They had to take into account the return on investment following a higher upfront financial investment in EVs. But they also had to account for variables like the impact on range in areas of the country where the extreme weather is more common, as well as the varying range requirements for the different types of government vehicles in question.

Navigating this type of complex transition can make it difficult to know where to start, but with Geotab’s unique Electric Vehicle Suitability Assessment (EVSA), NRCan was able to begin the process of determining which fleet vehicles were best suited to switch to EVs. A series of EVSAs were performed for NRCan to identify the necessary adjustments to the existing fleet and determine the various benefits associated with electrification.

How the EVSA helped NRCan

The EVSA was instrumental to the success of NRCan’s study by providing:

- + A detailed account of daily vehicle usage via remote data collection
- + An understanding of how various EV models would service existing driving cycles
- + Operational cost savings by EV model
- + Best available options for EV models to match requirements
- + Total cost, cost savings, and ROI for each vehicle and for total fleet



NRCan

www.nrcan.gc.ca

Industry:

Government

Types of vehicles:

Light-duty vehicles (vans, cars, SUVs, trucks)

Fleet size:

1237

- + A forecast of the total decrease in fuel consumption and greenhouse gas emissions
- + The business unit had only partially succeeded with this objective before, why was that?

The EVSA simplified the effort and involvement from fleet managers, sustainability professionals and senior executives by delivering reliable data analysis to assist with operational decision making.

The Results:

Armed with the results of their EVSAs, NRCan is ready to take the steps necessary to electrify its fleets. The information provided by the completed EVSA provides NRCan with accurate data to identify the specific fleet vehicles best suited to transition to EVs, and reliably predicts the ROI on the associated upfront investment.

NRCan initially analyzed 270 light-duty vehicles consisting of sedans, SUVs and trucks. Of those 270, 157 vehicles were identified as suitable for replacement with lower-carbon alternatives. The reports identified opportunities, that if fully implemented would result in:

- + A potential savings of \$1.3M across the lifetime of the new fleet
- + A reduction in greenhouse gas emissions by 30%

After completing the initial EVSA, NRCan continues to see the value of telematics data in gathering fleet performance data and performing additional EVSAs. Including the initial EVSA, 1,237 vehicles across 7 different agencies were analyzed. This analysis illustrated the potential to achieve the following results:

- + \$4.85 million in total cost of ownership (TCO)* savings, averaging 13.7% savings per fleet
- + Annual CO₂ reduction of 1,200 metric tons
- + Annual fuel reduction of 536,000 liters

*Over the typical seven-year vehicle lifecycle

"The EVSA was a very valuable exercise. Thanks to the analysis, departments have more confidence in acquiring EVs."

– Yves Madore, Senior Officer, Transportation and Alternative Fuels.