

## BIOFLEET CASE STUDY #8



### **Canadian Rockies Public Schools Canmore, Alberta**

#### **BACKGROUND**

With the majestic Canadian Rockies as their backyard, communities within the Bow Valley region have a strong commitment to preserve the environmental integrity of one of Canada's greatest landscapes.



Operating within this pristine countryside, the Canadian Rockies Public Schools (CRPS) division serves approximately 2,300 students in the Bow Valley region.

Covering 1,471 sq. miles, the CRPS includes Lake Louise, Town of Banff, Town of Canmore, Lac Des Arcs, Exshaw, Bow Valley Provincial Park, Mt. Kidd, Kananaskis Golf Course, Nakiska Ski Area, University of Calgary Field Station, Dead Man's Flats and Harvie Heights.

Over 60 per cent of these students ride the bus to school. And it was these students who saw an opportunity to reduce their environmental impact.

Last spring, students from Banff High School presented a proposal to the school board to convert the buses they rode to biodiesel. The Board agreed and on September 1, 2007, CRPS' entire fleet of diesel buses made the switch.

*"On the grand scale, we are reducing our carbon footprint and taking action to advance one of the Canadian Rockies Public School District's goals: environmental responsibility and stewardship,"* says Esme Comfort from the Canadian Rockies Public Schools District Board of Trustees. *"But we are also celebrating the ability of public education to empower kids to achieve their dreams."*

#### **MAKING THE SWITCH**

Emission reduction and lessening the school division's environmental impact were the main reasons for converting to biodiesel.

While using biodiesel has not affected fuel economy, purchasing fuel at wholesale instead of retail prices has generated significant savings. Storing the fuel directly at the CRPS facility is another important benefit, especially for the drivers.



Before using biodiesel, the CRPS had to get approval to install a double-walled, above-ground fuel storage tank in the bus yard and connect it to a power supply.

## USING BIODIESEL

### Fuel Supply, Storage & Safety



Big Rock Lubricants, based out of Calgary, supplies blended fuel to the CRPS, which requires 13,000 liters every month to fuel its buses that travel over 46,000 kilometers. Currently, B5 is the blend of fuel being used, but the CRPS hopes to increase to B20 should warranties allow.

The fuel is stored in an above-ground, double-walled storage tank equipped with a fuel pump and hose that drivers use to fuel their own buses. A hazmat is used to catch small amounts of fuel that may drip while fueling.

### Challenges

Biodiesel acts as a mild solvent and can end up cleaning slug out of engine components. To prevent issues such as plugged filters, the school initiated a preventative program when they switched to biodiesel. They have found that by following a regular maintenance schedule and staying on top of changing their fuel filters, they have had no problems with this challenge.

*“For us, switching to biodiesel has been a fairly smooth process,”* says Barbara Quinn, Transportation Supervisor, Canadian Rockies Public Schools. *“We have had no major problems to date and have been using B5 since September 1, 2007. There were some very cold weeks last winter with temperatures in the mornings hovering around the -30°C mark. And although cold mornings can create hard starts, we do not think any we experienced were fuel-related as only a few of our 27 buses running of biodiesel were affected and hard starts in cold weather is an issue we faced even before we switched to biodiesel.”*

### VEHICLE TYPES AND ENGINES

- 27 Conventional Type C Body buses
- 3 Type A Cutaway style buses

A list of the engines used is listed below:

- International engines (T444E and DT466E)
- Caterpillar engines (Model #3116 and 3126)
- Cummings engines (5.9 litre Diesel and ISB 205 HP)
- Mercedes Benz (MBE906)
- GMC 6.5 turbo diesel truck engines

### CONTACT INFORMATION

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