

## **New field-study on the potential use of biodiesel for off-road machinery in highway construction and forest operations**

**Vancouver, British Columbia, March 16, 2010** – FPInnovations, in partnership with Natural Resources Canada’s National Renewable Diesel Demonstration Initiative, is conducting a \$1.7 million field-study on the potential use of biodiesel for off-road machinery in highway construction and forest operations. This study’s purpose is to gain better understanding of the economical and technical issues related to renewable diesel, as well as identify the best means and methods required to overcome likely challenges to biodiesel implementation in Canadian operations.

The National Renewable Diesel Demonstration Initiative (NRDDI) provides an opportunity for real-world testing and performance evaluation in advance of regulatory action. Through the NRDDI, Natural Resources Canada is funding this study in the amount of \$810,000, the Forest Industry and FPInnovations are providing the balance.

“The Government of Canada is working closely with industry partners like FPInnovations to help ensure the seamless integration of renewable diesel in the Canadian fuel market,” the Honourable Jay Hill, Leader of the Government in the House of Commons and Member of Parliament for Prince George-Peace River. “This is an important step forward in reducing Canada’s total greenhouse gas emissions.”

The study involves three project locations and industrial activities in British Columbia : highway construction in Coquitlam, sawmill yard operation in Prince George, and forest harvest operations in Meritt.

The Prince George location is ideal for this project as it highlights the main challenges facing biodiesel users. These include challenging climate conditions for heavy equipment operations, cold temperatures and a remote location in which distribution and storage can be difficult. The Coquitlam location is of interest for the construction sector because it will demonstrate the logistical challenges in delivering biodiesel blends to their jobsites.

The logging and sawmill operations consume an average of 60,000 litres of fuel each month, the equivalent of a tanker truck. Therefore, several deliveries are anticipated this year. Fuel is delivered from the bulk terminal in Vancouver and transferred into a stationary above ground storage tank at the mill as well as 2 or 3 above ground storage tanks at the logging site. It is then transferred to portable tanks located in the back of pickup trucks (approx. capacity 500 litres), which in turn, deliver fuel to the machinery in the woods. Each month the highway construction site consumes 110,000 litres of fuel on average. Given a 60,000 litre tanker truck capacity, multiple deliveries will be needed over the 6-month long project. The fuel at the construction site is pumped from the tanker truck directly into each machine.

Safety measures were implemented to ensure the safe and successful completion of this project for everyone involved, for example, spill kits are on-site at JJM Construction, as well as on-board the tanker trucks.

Peter Lister, Vice-President for FPInnovations stated that “The importance of this study lies in demonstrating the operational and economic practicalities of using various blends of biodiesels (up to 10%) by off-road heavy equipment, for both Canadian operations and for construction equipment since the Forest Industry builds more roads in Canada than all combined governments.

Employees involved in this project will make use of an electronic datalogger – the MultiDat-, developed specifically for use in off-road equipment by FPInnovations researchers, which will be used to collect information that can help improve the productivity of operations or the utilization of equipment.

FPInnovations activities are focused on R&D and technology implementation. Therefore, this project also includes a vast technology transfer campaign across the country for heavy equipment owners and operators. A series of workshops will be implemented to inform potential users of challenges and best practices associated with biodiesel.

#### **About FPInnovations**

FPInnovations is Canada’s leading not-for-profit forest products research institute which performs research, technical services and technology transfer activities relating to wood harvesting, wood products, pulp and paper, nanotechnology and bio-energy and chemical production. FPInnovations’ staff numbers more than 600. Its research laboratories are located in Québec City, Montréal and Vancouver, and it has technology transfer offices across Canada. For more information about FPInnovations, visit: [www.fpinnovations.ca](http://www.fpinnovations.ca)

#### **Information sheet on MultiDAT**

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## MultiDAT Information Sheet

Forestry managers in every region share a common need: to obtain accurate information on machine productivity so they can improve the economics of their operations. In response to this need, FPInnovations has developed a second-generation datalogger, the MultiDAT, an electronic device that can be installed on any machine or vehicle involved in off-road equipment.

### What is MultiDAT?

MultiDAT is an electronic datalogger developed specifically for use in off-road equipment. It is used by managers to collect all type of information that can help improve the productivity of operations or the utilization of equipment.

### What can MultiDAT do?

#### **Record machine functions**

When linked with up to four sensors, provided by the user, the MultiDAT can record the operation of the related functions. This permits analysis of the duration of a function's activation, the number of activations, and measurement of a frequency at specific intervals (e.g., monitoring a speed sensor).

#### **Record machine movement**

The MultiDAT comes equipped with an adjustable internal motion sensor that detects movement of the machine, but not vibrations of the motor. In many cases, you can quickly determine the true operating time for a machine without requiring any additional sensors.

#### **Record machine location**

Add the GPS option to collect positional data and determine the areas harvested or treated. Geofencing capabilities are also available. The data can be exported for analysis using ArcView or compatible software.

#### **Record operator comments**

The operator can enter codes on the MultiDAT keypad that describe the work in progress, the reason for machine downtime, and the current machine operator. You can customize the codes for your operation and determine the hours the operator worked, the type of work done by the machine, and the reasons for any work stoppages.

#### **Give immediate feedback to the operator**

With the addition of the real-time display, the MultiDAT can provide the operator with an immediate feedback on many parameters like work time tree count or utilization since the beginning of his work shift.

#### **Analyze the data and produce reports**

Even the report format is configurable. Using the MultiDAT software, select the information to compile and how to compile it (e.g., daily, weekly, by operator, etc.) using your personal computer.

For more information on the MultiDAT, please consult FPInnovations Website at [www.fpinnovations.ca/multidat](http://www.fpinnovations.ca/multidat)