

Coffee culture drives firm into the fast lane for renewable fuel

Carl Mortished
International Business Editor

Don't just count on whizzy atoms or the fickle wind to keep the lights burning in an energy-insecure future. Think about garden waste, old timber or even used coffee grounds.

Dynamotive, a small Canadian company, has been thinking about bits of plant waste and come up with a solution: bio-oil. It has begun operations at West Lorne in Ontario, converting waste from a woodflooding company into a liquid fuel that runs a 2.5 megawatt power plant, supplying the town with electricity. Dynamotive is the brainchild of Andrew Kingston,

\$25-\$30

The crude price range where bio-oil is competitive.

Source: Andrew Kingston, former oil trader

a former oil company man whose vision for biofuels differs from those rushing to lay waste to millions of hectares of virgin forest to build palm oil plantations that can fuel our cars.

Better to understand the supply chain, Mr Kingston reckons. "I was an oil trader. Where you make money in the oil business is in the logistical chain," he said. It's not just about drilling wells to capture oil. You need ships to transport it, a refinery to manufacture fuel and a willing customer to buy it.

Fuel made from plant mat-

erial is no different. Access to a secure supply of cheap biomass is critical and the biofuel industry is hitting the buffers over concerns about crop shortages and the use of food crops, such as rapeseed, for fuel.

The political momentum behind renewable energy has created a plethora of projects that are driving up the price of palm oil, a raw material for biodiesel. Prices rose by a quarter this year. Yesterday Malaysia's biggest palm plantation companies, Sime Darby, Kumplan Guthrie and Golden Hope, came together to create the world's top palm oil producer, anticipating further growth. Meanwhile, a British power company, RWE NPower, has abandoned plans to convert a power station in Dartford, Kent, unable to secure enough palm oil.

"Where we have an advantage," Mr Kingston said, "is we are not taking food crops." He has set up a team to prospect for secure supplies of biomass. That includes crop waste, timber from demolition sites and a 5,000-hectare energy park in Ukraine, where Dynamotive and its partner, Rika Biofuels, is planting enough *msycanthus* — elephant grass — to replace the energy of 250,000 barrels of crude oil.

Dynamotive uses a patented technology, pyrolysis, that turns plant material into liquid in two seconds. According to Mr Kingston, the fuel is competitive at oil prices of \$25 to \$30 a barrel — half the crude price.

In Australia, it expects to supply a plant in Darwin with municipal tree cuttings to fuel a mining operation nearby. Talks are under way with Alcoa after the successful test of bio-oil at an aluminium plant in Quebec.

Anything based on cellulose will do, including coffee grounds, the object of talks with another large company. "It's coming to a coffee shop near you," Mr Kingston said.