This case study describes the experience of The Essential Baking Company (www.essentialbaking.com), a small Seattle-based private baking company that provides organic baked goods throughout the Puget Sound region.

Essential Baking successfully uses B99 biodiesel to fuel their entire fleet of delivery vehicles. They credit their success to the company’s commitment to sustainability, strong partnerships, and the availability of a reliable and affordable renewable fuel.

The Essential Baking Company offers certified organic baked goods to customers through a variety of grocers, cafes, restaurants, schools and hospitals throughout the Puget Sound region. Essential Baking began their business by providing gourmet breads at local farmer’s markets. The bakery grew quickly and soon moved to a commercial bakery located in south Seattle. They established their first bakery café in 1998.

Today Essential Baking delivers bread, pastries, and desserts to establishments throughout the Seattle and Puget Sound area including grocery stores, cafes, restaurants, schools and hospitals. They are the largest consumer of organic wheat in the state of Washington.

**Description of Accomplishment**
To deliver baked goods to their expanding customer base, Essential Baking leases eleven diesel vans, running nine of them on pure (99%) biodiesel (B99) and the remaining two on B20. Biodiesel reduces greenhouse gas emissions, the pollution that causes global warming, and diesel soot, a highly toxic carcinogen.

Of these eleven vehicles, nine are 2005 Dodge sprinter vans while the remaining two are 2008 sprinter vans manufactured by Freightliner. Essential Baking fuels the 2008 model vans on a lower percent biodiesel blend (B20) because those vehicles have advanced exhaust control systems.
All vehicle manufacturers are required to add selective catalytic reduction (SCR) technology to reduce nitrogen oxides (NOx) emissions, an air pollutant found in high concentrations in other parts of the country. These SCR systems cannot function properly with the higher biodiesel blends, and Freightliner will only support the warranty if the vehicle is run on B20 or less.

Essential Baking uses B99 and B20 throughout the year except for December through March, when they switch to B75 to reduce the potential for gelling. Their distributor, Propel Fuels (another Coalition member), provides the winter fuel mix.

**Keys to Success**
Essential Baking credits company leadership and commitment to sustainability, strong partnerships, and a reliable, high-quality supply of biodiesel from Propel as keys to their success. Their website features the following statement on their commitment to environmentally and socially responsible operations:

“...We are dedicated to the goals and ideals of sustainability. We were founded with these values....before buzzwords like sustainability or locavore. Our bakery has been organic since its beginnings and it is our biggest sustainability effort. We don’t use anything made with synthetic additives, toxic chemicals or genetically modified organisms. Instead, organic farming supports healthy communities now and for the future.

**Strong Partnerships**
Due to concerns about the potential for biodiesel to clog vehicle engines, Essential Baking brokered a deal their fuel provider and Clean Cities Coalition member, Propel Fuels. Essential Baking agreed to only use Propel’s fuel, and in return, Propel guaranteed the fuel quality. Given this agreement, Essential Baking’s leasing company, International Leasing, agreed to let Essential Baking fuel the vehicles with B99 and B20.

**Reliable and Renewable Fuel**
Essential Baking also considered using compressed natural gas for its delivery fleet, but opted for the locally-produced biodiesel instead. The agreement with Propel Fuels provided the confidence Essential Baking needed to ensure they could make their deliveries on time. In addition, Essential Baking found biodiesel to be very flexible in that they could easily switch back to petroleum if price became a barrier.
Metrics
By purchasing B99 for their fleet vehicles, Essential Baking reduces toxic diesel particulate matter and greenhouse gases (GHGs). Through their partnership with Propel Fuels, Essential Baking has easy access to calculations showing the pollution reductions they achieved from using biodiesel.

As of summer 2011, Essential Baking has displaced 10,000 gallons of foreign oil and reduced greenhouse gas emissions by more than 250,000 lbs (of CO$_2$e). The percentage reductions are summarized in the table below:

![Image of pollution reduction calculation]

What’s Next for Essential Baking?
Essential Baking is continuing their efforts to be a sustainable company and reduce their emissions. They’re currently evaluating their entire fleet operations to see if they can attain Evergreen Fleets certification. Evergreen Fleets is a voluntary certification program administered by the Puget Sound Clean Air Agency and the Western Washington Clean Cities Coalition. Evergreen Fleets evaluates fleets for reducing emissions and adopting smart and efficient fleet management policies. Certified fleets can display certification decals on their green vehicles.

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