

# CASE STUDY: WASTE OIL TO BIODIESEL IN BEST WESTERN HOTEL

Green  
Tourism



**Audit Year:** 2010

**GTBS Award:** GOLD

**Business Name:** Blunsdon House Hotel

**Business Type:** Hotel

**Location:** Wiltshire, ENGLAND

**Website:** [www.blunsdonhouse.co.uk](http://www.blunsdonhouse.co.uk)

Blunsdon House Hotel is a four star family-owned hotel in Swindon in Wiltshire. There are 116 bedrooms, a health and leisure club with an indoor pool and a 9 hole golf course. The hotel was awarded a GOLD award when it joined the Green Tourism Business Scheme. This case study looks at the hotel's use of biodiesel.

## Benefits of Biodiesel

Cleaner and renewable, biodiesel lowers exhaust emissions. Bio-diesel is also a powerful solvent and will de-coke clogged inefficient engines, which although is an excellent long term benefit, it does result in the need more frequent filter changes.

Bio-diesel will destroy natural rubber - it is essential that engines using it do not have components made of rubber (most post 1990 engines use poly-urethane). Bio-diesel does not however contain any antifreeze agents (highly toxic benzene) and so during the winter months it must be mixed with its traditional counterpart to ensure it remains effective.

Biodiesel is non-toxic and degrades approximately four times faster than diesel (within 28 days). Pure biodiesel (B100) degrades 85% to 88% in water. There is a waste product in producing biodiesel, but it is harmless (glycerin). This can be composted naturally or collected by local chemical companies depending on the area.

## Green Fuels Unit / Fuelpod

Blunsdon House approached Green Fuels in 2008 with the aims of further reducing their carbon emissions, cutting some costs and improving their waste management structure. Blunsdon House benefited from the experience and technical knowledge that Green Fuels have to offer and attended a Green Fuels training day to familiarise themselves with the biodiesel process.

In order to achieve these aims they purchased a *fuelpod*®2 which would enable them to process their waste cooking oil into biodiesel. The kitchens recycle 200–300 litres of waste cooking oil a month, and the hotel uses approx 50-100 litres of biodiesel a week, saving 130-260kg of carbon a week.



## Cost Savings

The overall cost of the project was about £3,500 and the hotel produces approx 80 litres of bio-diesel a week for onsite consumption. The ongoing costs of producing the diesel is 15p per litre if using waste cooking oil. Blunsdon House Hotel has halved their red diesel bill. In total the business saves about £1500 per annum which represents a 2.5 year payback on the investment.

## Web Links

Green Fuels: [www.greenfuels.co.uk](http://www.greenfuels.co.uk)