

[Milan Blagoev](#) with [Sebastian Bizzari](#), [Ralf Gubler](#), [Chiyo Funada](#), and [Zhang Yi](#)

[View Full Report](#)

<http://www.sriconsulting.com/CE/H/Private/Reports/205.0000/>

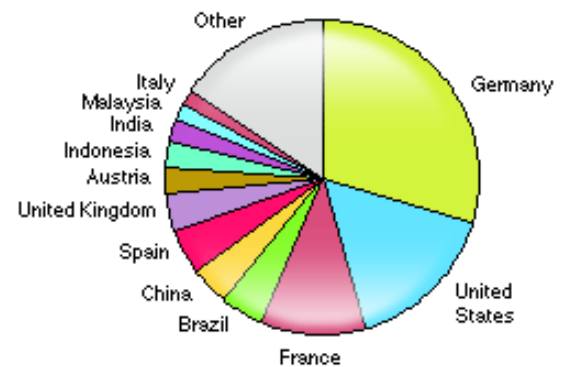
Biodiesel Growth

Biodiesel, defined as the methyl ester of natural fatty acids produced via transesterification of fats and oils, is made mainly from renewable biological resources (vegetable or animal fats and oils) and is therefore an ecologically friendly alternative to petroleum-based diesel. Biodiesel fuel is adapted to the diesel engine and may be used in standard diesel engines. Because of its excellent solvent properties, however, fuel hoses, pipes and seals must be made resistant to biodiesel, if it is used in its pure form.

The biodiesel industry has experienced some of the highest growth rates ever seen in the chemical industry. Both world capacity and production/consumption of biodiesel grew on average by more than 50% per year during 2002–2007. In 2007, world biodiesel production capacity grew at triple-digit growth rates over 2006.

The most important development over the last several years has been the shift in global biodiesel patterns. Only five years ago, Europe was the dominant player in the biodiesel industry, accounting for more than 83% of the global installed capacity and 93% of world biodiesel production and consumption. In 2005, other regions, led by North America and Asia, started to develop their own biodiesel industries. By 2007 the European share had declined to about 46%; North America and Asia accounted for 23% and 19% of world biodiesel capacity, respectively.

World Consumption of Biodiesel—2007



For 2007–2008, growth in both capacity and supply/demand is expected to slow, but to still achieve remarkably high rates of growth. World production/consumption and production capacity for biodiesel during 2007–2012 are forecast to grow very rapidly.

Since biodiesel consumption is strongly regulated at the national level, this report looks at it from the standpoint of individual countries rather than regionally. With 30% of world consumption, Germany is the leading market for biodiesel but its dominance has diminished.

The following pie chart shows world consumption of biodiesel: The biofuels market in general—and the biodiesel market in particular—is confronted with uncertainty and volatility seldom seen before.

Growth prospects are expected to be dampened by

- The ongoing fuel vs. food debate
- Rising raw material prices
- The regulatory environment, which is constantly changing
- A slowing economy, not only in the United States but in other countries and regions as well
- The crisis in the financial sector connected with more stringent financing requirements for future projects

By 2012, the United States is expected to become the largest single biodiesel market, accounting for roughly 19% of world biodiesel consumption. It will be followed by Germany and France. New and large markets for biodiesel are expected to emerge in China and India, since the governments of both countries have announced major biodiesel initiatives.

The combined share of the world's five largest biodiesel markets is expected to decline further. In 2005, they accounted for approximately 87% of world demand, their share declined to 67% in 2007 and by 2012, they are expected to account for 58% of the world demand. This is mainly because significant biodiesel markets are expected to emerge in many other countries, including Belgium, the Netherlands, Poland, Hungary, Argentina, Australia, South Africa, Thailand, and Indonesia and Malaysia, to name just a few.

Since the production costs of biodiesel are higher than those of conventional diesel, biodiesel is not competitive without political support and tax exemptions. As a consequence, the biodiesel industry is largely driven by government legislation and regulation. The motivating forces behind the development of the biodiesel industry include

- Climate protection by reducing greenhouse gas emissions: since biodiesel is derived mostly from renewable sources, it has a positive carbon dioxide balance
- Securing domestic energy supply: biodiesel is derived from domestically grown oil crops with the purpose of reducing imports of foreign oil
- Rural development: job creation and support for local farmers in underdeveloped regions through the cultivation of oil-bearing crops used for biodiesel production

The availability of feedstock and the overall energy balance for biodiesel compared with other alternative fuels are the biggest issues facing the biodiesel industry. In the long run, fuels derived from biomass-to-liquid (BTL) processes might become favored over biodiesel, since their mass and energy balances are better and they are able to use a wider variety of feedstocks. The large amounts of glycerin produced as a by-product in biodiesel synthesis have destabilized global supply/demand for glycerin.