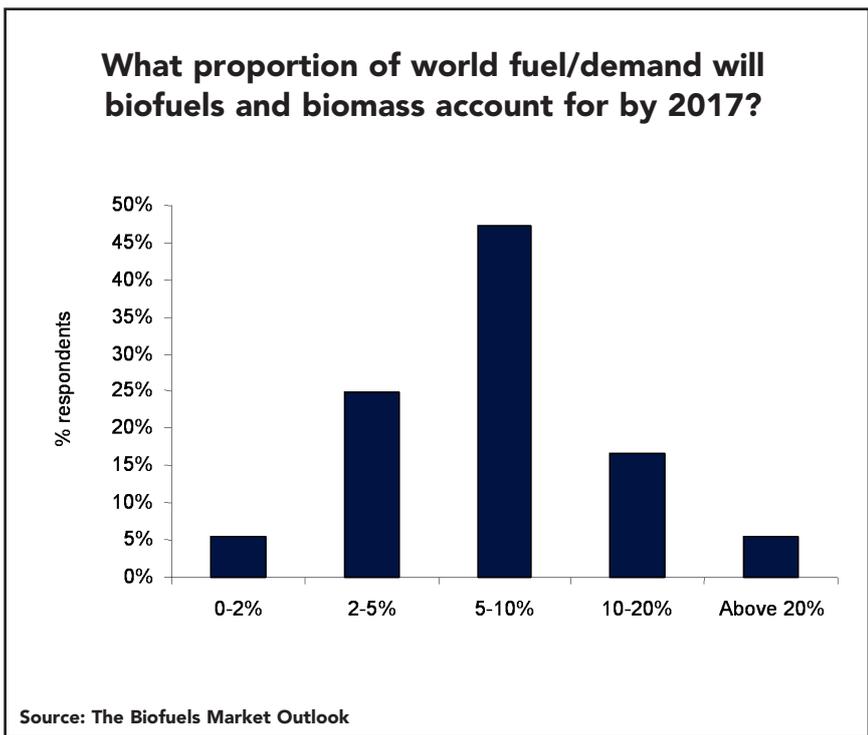


BUSINESS INSIGHTS

The Biofuels Market Outlook

Market drivers, growth opportunities and regulatory change

New Energy Report - Published October 2007



“In terms of the long-term outlook for biomass and biofuels, the largest proportion of Business Insights industry survey respondents (47%) thought that biofuels would account for 5-10% of total global fuel production by 2017. A further 25% of respondents thought that biofuels would account for 2-5% within 10 years, while 17% predicted that they would account for 10-20% of total global fuel production by 2017...”

Understand the costs and key drivers and inhibitors for future biofuel production in each of the key regions with this new report...

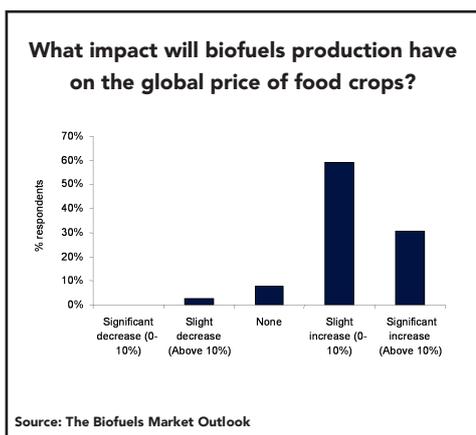
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Key issues examined in this report...



"As shown above, when asked specifically about the likelihood of biofuels production increasing food and crop prices, the majority of respondents 59% expected a slight increase, although 31% expected a significant increase. Only 3% thought that biofuel production would reduce the cost of food crops, while the remaining 8% thought that it would have no effect..."

- **Advanced biofuels.** Lignocellulosic fuels made from non-food feedstocks (waste from agriculture and forestry) offer more efficient, cleaner cost-effective biofuels in the longer term.
- **Incentives.** Future biofuels production and consumption expansion will depend heavily on incentives frameworks in order to stimulate the market. However, these will clearly affect the global fuel market.
- **Biomass: Food or fuel?** Increased biomass production may lead to deforestation and rising food crop prices, a particular concern in countries where leading biomass crops are consumed as food.
- **Production costs.** Feedstock prices, the process energy used, and the prices received for by-products from the production process drive production costs and vary widely across processes and geographical regions.
- **Biofuel cost effectiveness.** Ethanol and biodiesel will lead the market in the medium term because of the high distribution costs of methanol and hydrogen and production, storage and consumption issues.

The Biofuels Market Outlook

Market drivers, growth opportunities and regulatory change

Typical oil extraction from 100kg of oil seeds

| Crop | Oil yield (kg) from 100kg of oil seeds |
|------------------|--|
| Castor seed | 50 |
| Copra | 62 |
| Cotton seed | 13 |
| Groundnut kernel | 42 |
| Mustard | 35 |
| Palm kernel | 36 |
| Palm fruit | 20 |
| Rapeseed | 37 |
| Sesame | 50 |
| Soybean | 14 |
| Sunflower | 32 |

Source: The Biofuels Market Outlook

"Many vehicle manufacturers have already started to make vehicles that can run on pure biodiesel, which has not resulted in a significant rise in vehicle prices. For high blends and pure biodiesel there is usually no mainstream market. In Germany, however, there are over 1,800 gas stations selling pure biodiesel. The table above shows typical yields of biodiesel from different oil seed sources..."

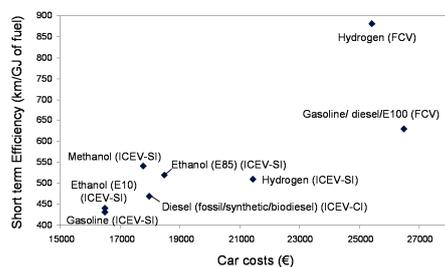
Over 80% of the world's primary energy supply is currently derived from fossil fuels. Concerns around energy security, climate change and rising oil prices are driving the search for cheaper and more environmentally friendly alternatives. However, it is only recently that technological advances and reduced production costs have meant biofuels can fulfil this need.

The Biofuels Market Outlook: Market drivers, growth opportunities and regulatory change is a new report published by Business Insights that provides forecasts for the biodiesel and ethanol markets, analyses the predicted growth of the biofuel economy, and how it is likely to influence fuel and biofuel prices. It details the strategies, incentives and legislation intended to boost the production and consumption of biofuels. It also contains the results of our proprietary industry survey detailing attitudes and perceptions towards biofuels.

Quantify the size of the biofuels market and understand the key drivers, inhibitors, policies and regulations that will shape its future growth with this new report.

This new report will enable you to...

Passenger car costs (€) and fuel efficiencies (km/GJ of fuel) by fuel and engine system



Source: The Biofuels Market Outlook

"In terms of km per GJ of fuel, E10 (a 10% blend of ethanol) is already competitive with gasoline, and will remain so long term. A higher blend of ethanol, such as E85 cannot yet match the efficiency of existing internal combustion engines running on gasoline. As expected, all types of existing diesel provide greater fuel efficiency over gasoline. It is forecast that it will lose this efficiency advantage over gasoline and ethanol in the long-term as technology advances..."

- **Quantify the size of the ethanol and biodiesel market by region** with this report's production and demand data across Europe, Brazil, India and the US with forecasts to 2012.
- **Assess the comparative performance of fossil fuels and biofuels** with this report's analysis of biofuel cost by feedstock at the filling station with existing and future technology.
- **Examine the market dynamics of biofuels industry** using this report's strategic analysis of key market drivers and inhibitors.
- **Understand the impact governmental strategies and initiatives** on the biofuel market using this report's examination of policies and regulations in major markets and key developing nations.
- **Benchmark leading executives' opinions on the future of biofuels** using this report's analysis of our proprietary global survey detailing the key issues affecting the biofuels market.

Key findings from this report...

Top 10 global ethanol producers, 2005

| Country | Ethanol (millions of gallons) |
|----------------|-------------------------------|
| United States | 4,264 |
| Brazil | 4,227 |
| China | 1,004 |
| India | 449 |
| France | 240 |
| Russia | 198 |
| Germany | 114 |
| South Africa | 103 |
| Spain | 93 |
| United Kingdom | 92 |

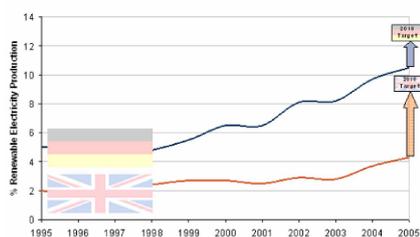
Source: The Biofuels Market Outlook

"Brazil and the US are currently the world's largest producers. Interestingly, despite the predicted surge in demand from China and India for fossil fuels, both countries have a relatively significant biofuels program – although biofuels still represent a fraction of the energy supply and demand chain for fossil fuels..."

- **Biomass and biofuels accounted for nearly 21% of the world's total renewable energy production in 2005.** In addition, Energy industry executives believe that biofuels will account for 5-10% of total global fuel production by 2017.
- **The cost of ethanol from starch crops will fall by nearly 20% between 2004 and 2010,** while biodiesel produced from used oil and fat is likely to be the cheapest biofuel 2010.
- **Biofuels will account for 5-10% of total global fuel production by 2017** in the opinion of 47% of industry energy executives responding to our proprietary survey.
- **Ethanol production from beet and wheat will become a €20bn market in Europe by 2010.** Advanced biofuels (second-generation) will account for €10bn sales by that time.
- **Biodiesel is expected to grow to represent 6% of total EU diesel consumption by 2010 from 2% in 2005.** The EU accounted for 85% of global biodiesel production in 2005.

Your questions answered...

Renewable electricity production in Germany and UK



Source: The Biofuels Market Outlooks

"To achieve the 2001 EU Renewable Directive target of 20% share of electricity to be produced from renewable energy sources, non-binding national targets have been set for the consumption of electricity from renewable sources and for biofuels for transport. As shown above, in 2005 the UK still only produced 4.2% from renewable sources, meaning that the 2010 10% target will be a challenge. Germany is fast approaching its 2010 12.5% renewable target, having already reached 10.2% in 2005..."

- Why is Brazil's biofuel economy the most advanced in the world?
- How much biodiesel does the US produce every year?
- To what extent are India and China developing biofuels?
- How do fossil fuels and biofuels compare in terms of their cost-performance?
- When will biofuels account for 50% of the world's primary energy demand?
- Which governments around the world are doing the most to promote the biofuel economy?
- Why is lignocellulosic ethanol more desirable than bioethanol?
- Which countries produce and consume the most biodiesel?

Extract from 'The Biofuels Market Outlook' report...

Chapter 3: Industry forecasts for biofuels

Biofuel drivers and inhibitors

When asked to rank the most important drivers of biofuels market, survey respondents cited the most important factors as concerns over the environment and carbon dioxide emissions, as well as energy security, coupled to the importance of regulatory incentives and pressure to drive biofuels into the mainstream market (see Figure 3.6). The rising cost of oil and gas supplies was also considered to be an important factor.

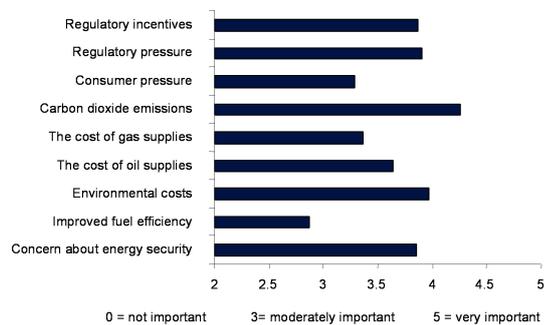
When it comes to inhibitors of the widespread adoption of biofuels, survey respondents cited a combination of factors as being the most important, including the cost of biofuel production, lack of favorable regulatory regimes, the cost of technology transfer (from fossil fuels to biofuels), the scarcity of land available for growing biomass and the environmental consequences of that, as well as the resulting likely in rise the price of food crops. Consumer resistance, biofuels relative inefficiency and the CO₂ emissions of biofuels (although relatively lower than fossil fuels) were not seen as significant inhibitors for the biofuels market (see Figure 3.7).

As shown in Figure 3.8, when asked specifically about the likelihood of biofuels production increasing food and crop prices, the majority of respondents 59% expected a slight increase, although 31% expected a significant increase. Only 3% thought that biofuel production would reduce the cost of food crops, while the remaining 8% thought that it would have no effect.

Conclusions

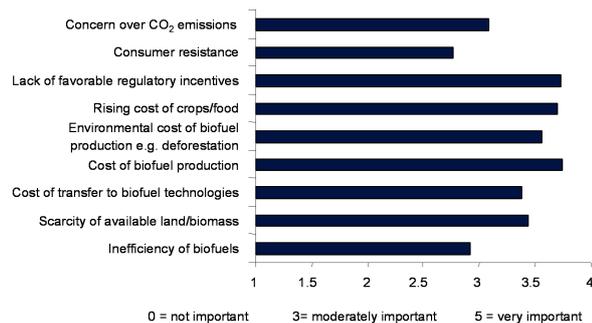
Biofuels are expected to enter the mainstream energy infrastructure, and are doing so already. However, apart from Brazil, they still only represent a small percentage of total fuel production and consumption. As environmental concerns grow and energy security becomes more volatile, there is a growing requirement for governments around the world to change the energy mix, and to encourage the development of a wide-ranging energy-production framework.

Figure 3.6: How important will the following factors be in driving the biofuels market over the next five years?



Source: The Biofuels Market Outlook

Figure 3.7: How important will the following factors be in inhibiting the biofuels market over the next five years?



Source: The Biofuels Market Outlook

Order this report today to find out more...

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